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A HISTORY OF THE NEW JERSEY  
STATE HIGHWAY DEPARTMENT  
VOLUME II - STATE HIGHWAYS

BY

ROBERT A. MEEKER

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TRENTON, NEW JERSEY

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By an Act of the Legislature approved March 13, 1917, and designated as Chapter 14, P.L. 1917, the following routes were laid out for a State Highway System, as follows

Route No. 1, from Elizabeth to Trenton by way of Rahway, Metuchen, New Brunswick and Hightstown.

Route No. 2 - From Trenton to Camden by way of Bordentown, Fieldsboro, Boebling and Burlington.

Route No. 3, From Camden to Absecon by way of Berlin and Hammonton.

Route No. 4, From a point on Route No. 1, in or near Rahway to Absecon, by way of Perth Amboy, Keyport, Middletown, Red Bank, Long Branch, Asbury Park, Point Pleasant, Lakewood, Toms River, Tuckerton and New Gretna.

Route No. 5, From Newark to the bridge crossing the Delaware River about two miles above Delaware, by way of Morristown, Dover, Netcong, Budds Lake, Hackettstown, Buttsville and Delaware.

Route No. 6, From Camden to beginning of Route No. 15 by way of Quinto and Shile, including therein a spur extending from the property line of the Gloucester and Philadelphia Ferry Company to a point on Broadway, in the City of Gloucester, known as Pine Grove Toll Gate.

Route No. 7, From Hightstown to Asbury Park by way of Freehold, Jerseyville and Hamilton.

Route No. 8, From Montclair to State line at Unionville by way of Singac, Wayne, Pompton Plains, Butler, New Foundland, Stockholm, Franklin Furnace and Sussex.

Route No. 9, From Elizabeth to Phillipsburgh, by way



of Westfield, Plainsfield, Bound Brook, Somerville, White House, Clinton, West Portal and Bloomsbury.

Route No. 10, From Paterson to Fort Lee Ferry, by way of Dundee Lake and Hackensack.

Route No. 11, From Newark to Paterson by way of Belleville, Bloomfield, Nutley and Passaic.

Route No. 12, From Paterson to Phillipsburgh, by way of Little Falls, Pine Brook Parsippany, Denville, thence over Route No. 5 to Budds Lake, thence to Washington and Broadway.

Route No. 13, New Brunswick to Trenton by way of Kingston, Princeton and Lawrenceville.

Route No. 14, From Egg Harbor City to Cape May City by way of Mays Landing, Tuckahoe and Cape May Court House.

Route No. 15, From Bridgeton to Cape May Court House or such other point on Route No. 14 as may be determined by the State Highway Commission.

Route No. 16. From Morristown to Trenton by way of Van Dorn's Mills, Bernardsville, Far Hills, Bedminster, Pluckamin, Somerville, South Somerville, Belle Mead and Harlingen.

Said routes shall be as short and direct as practicable between the points specified, due regard being had for the other requirements of the act.

Existing highways may be made use of wherever it is convenient so to do, but the commission may lay out, open and improve new roads over acquired rights of way and may also lay out routes in continuation of, connecting with, or in addition to the routes above specified.



## STATE HIGHWAYS

The following work was done under Chapter 14, P.L. 1917. The first State Highway was designated as Route 1, Section 1, Metuchen Menlo Park 1.811 miles long thickness 10-1/2" center 8" at side 18' wide with shoulders 3" wide on each side, of bituminous macadam.

The road runs from Plainfield Avenue in Metuchen to the undergrade crossing at Menlo Park. The work was begun June 28, 1918, but due to labor shortage, it was decided to employ inmates of the Rahway Reformatory to the number of fifty or more men to perform the work necessary in laying of the pavement, said labor to be under the direction and supervision of the State Highway Department.

The work was finally finished and accepted July 13, 1919 and after deductions and extensions the cost was \$128,971.84.

SECTION 2, This improvement extends from Smith Street, Menlo Park, the end of the first section to St. George Avenue, Rahway, a part of Highway 4. The pavement is 3.55 miles long, graded 30 feet wide, paved 20 feet wide with Portland Cement concrete and having a depth of 10-1/2 inches in the center and 8 inches on the sides, and finished with bituminous shoulders 3 feet wide on each side, these shoulders were 6 inches deep. This road follows the general line of the Middlesex-Essex Turnpike but was shifted to the westerly side of the Pennsylvania railroad throughout its principal length. The cost of this improvement was \$330,199.33.



Route 1  
Sect. 2

The traffic embargoes, war regulations and restrictions were many, but these were finally met and adjusted. The plans and contract for this improvement were approved on January 5, 1920 by the Bureau of Public Roads at Washington. This followed the formal opening of the road by the Highway Commission on Oct. 6, 1919. The amount of Federal aid on the last section was \$69,329.03.

Sect. 3

The next section to be improved was designated as No. 3. It extended from Robbinsville in the township of Washington, County of Mercer and ended at Windsor. The length of this section was 2.54 miles. It was graded to a width of 30 feet and paved to a width of 18 feet with concrete having a depth of 10-1/2 inches at the center and 8 inches on either side, to this were added bituminous shoulders 3 feet wide on each side, the depth of these shoulders was 6 inches. The new pavement was laid on top of the old macadam. This road is a portion of the Borden-town, South Amboy turnpike laid out in 1816 and relocated in 1817. The official width as laid out is 66 feet. This road was originally in Middlesex County, but was a part of the county taken over to form Mercer County in February 1838. The road was macadamized by the county in 1914 but the traffic increase was so great that concrete had to be laid. Application was made through the bureau of public roads to the Secretary of Agriculture. Approval of the project was granted August 1, 1919. The pavement was finished November 13, 1920, the cost was \$135,319.21.



Sect.4

The Windsor Hightstown Section 3.453 miles long running from the end of the present construction in Windsor and ending at Hightstown. The graded width is 30 feet and the pavement consists of 18 feet of concrete with 2 shoulders of bituminous macadam 3 feet wide. The concrete is 10-1/2 inches deep in the center and 8 inches deep on the sides. The shoulders are 6 inches deep. This road is a portion of the Bordentown South Amboy turnpike. This improvement was made by scarifying the old macadam, reshaping the same and rolling this base with a ten ton roller. The concrete pavement was then laid.

Work on this section was started on June 11, 1919, and finished and paid for December 20, 1919. The final total cost was

\$122,430.90

The account was closed by paying

11,841.87

Section No.1A. Runs from Middlesex Avenue and Holly Street under the Pennsylvania railroad to the Lehigh Valley Railroad bridge near the intersection of Lake Street and Amboy Avenue. Its length is 0.283 miles and the pavement is of concrete 18 feet wide and 8 inches deep and with the shoulders 3 feet wide. Its cost was

38, 381.05

Route 2  
Section 1

Known as the Burlington Roebling Section 5 miles long was improved with concrete 18 feet wide by 8-3/4 inches deep in the center and 6 inches deep at the sides. The contract was let September 5, 1913. The work was completed on June 30, 1921, but owing to some doubt as to the acceptability of the pavement,



it was deemed wise to delay the final inspection until tests had been made by the laboratory. The report of the laboratory being favorable, the contractor was directed to complete the maintenance by sealing cracks and transverse joints. This he did not finish until December 14, 1921. The road was inspected for final acceptance by the resident commissioner on December 21, 1921. The final cost of this road was \$ 303,998.05 This was paid after final acceptance of the work by the Highway Commission on January 4, 1922.

### ROUTE 3

The Ancora Atco road 4.847 miles long runs from a point near the railroad at Ancora and ends at point near Hays Mill Pond at Genesee Avenue Sta. The width of the right of way varies from 50 feet to 66 feet and it is graded 30 and 32 feet wide, paved to a width of 18 feet with concrete and finished with two shoulders each 3 feet wide. The depth of the concrete is 8-3/4 inches in the center and 6 inches on either side. The shoulders are of gravel 6 inches deep. A great portion of this section is laid out over a new right of way and connects several new streets and township roads. The contract for the grading was executed by Black & Klockner on August 8, 1918. This firm failed to finish the grading, as a result, on January 17, 1920 the contractors were notified, that the Commission declared the contract abandoned. On April 6, 1920 bids were received for the completion of the grading. The low bidder could not qualify because he was unable to complete at least 800 cubic yards daily, as a result the Commission authorized readvertisement for grading



AND PAVING. THE bids were so high that they were rejected. On April 4, 1920 bids were received for the completion of the grading. The lowest bidder was the Weldon Contracting Co. in the amount of \$56,883.90. The contract was awarded to them and they finished the work and received their payment on May 15, 1921. This amount was in the sum of \$60,988.30. The contract for concreting this road was let to Wm. Eisenberg who after two extensions of time finished the pavement on October 1st, but the sides and drainage were not finished until November 1, 1921. The road was paid for as follows:

Section 7A	2.571 miles	\$125,967.43
Section 7B	2.376 "	119,347.81

This pavement was of concrete 20 feet wide, and having a depth of 8-3/4 inches in the center and 6 inches on the sides. The Atco-Berlin section is a continuation of the White Horse Pike from the section improved from Ancora and is 2.987 miles long, graded 30 feet wide and paved to a width of 18 feet with concrete that is 8-3/4 inches deep in the center and 6 inches deep on the sides it is provided with shoulders 3 feet wide on each side. These shoulders are of macadam with bituminous dressing. The work on this section was started on June 26, 1919 and finished and paid for on November 7, 1920. The total cost was \$131,054.43 as the road was already graded 94 percent was consumed for the paving work. The job was finished and paid for on November 7, 1920, the total cost was \$131,043.43.

#### ROUTE 3

This section of Route 3 - 3.373 miles long from Elwood to DaCosta was approved by the Secretary of Agriculture on May 15, 1919. The improvement consists of a concrete pavement 18 feet



wide, with a depth of 8-3/4 inches in the center and 6 inches at the sides, backed by 2 gravel shoulders each 3 feet wide and 6 inches deep. The road was accepted by the State on January 5, 1920, some shoulder work was repaired and the final acceptance on part of the U. S. Government was secured in the amount of \$49,804.84. The total cost of this improvement was \$126,183.40. The second section from Elwood to Egg Harbor 5.876 miles long by 18 feet in width of concrete was not finished and paid for until December 13, 1920, the cost of this section was \$197,979.36. The concrete was laid to a depth of 8-3/4 inches in the center and 6 inches deep on the sides.

The DaCosta-Hammonton 4.418 miles long begins at a point one-half miles southeast of DaCosta and ends at the Camden Atlantic County line west of Hammonton. This project diverts through travel from built up section of the town. The proposed improvement consists of 18 feet of concrete with 2 shoulders 3 feet wide on either side. The depth of the concrete is 8-3/4 inches in the center and 6 inches on the sides. The gravel shoulders are 6 inches deep. The cost of the job was \$166,109.60 and was paid on October 30, 1920.

#### Route 4

Middletown - Red Bank road 3.50 miles long running from a point at the northerly end of the Navesink river bridge, thence northerly to Church Street in the village of Middletown. It is graded 30 feet wide and paved 18 feet wide with concrete and finished with 2 bituminous shoulders 3 feet wide by 6 inches deep. The concrete pavement is 8-1/2 inches deep in the center and 6 inches deep on either side. The shoulders are 6 inches deep.



This is an old colonial road, designed to connect the colonial towns of Middletown and Shrewsbury and was laid out over 200 years ago. The work was completed inspected and accepted on December 1919.

The cost of the finished work was \$204,786.32.

This job was started on July 22, 1918 and finished in July 1919 and paid for in August. The Navesink river section of this road beginning at the south end of the bridge over Navesink river, lying in the Borough of Red Bank, and extends to Prospect Place a distance of 0.221 miles. It was graded to a width of 30 feet and paved 18 feet wide with concrete having a depth of 8-1/2 inches in the center and 6 inches on the sides. To this was added two bituminous shoulders each 3 feet wide and 6 inches deep to this was added the length required for a new bridge thus making the length taken over 0.429 miles.

The cost of this improvement was \$20,533.57

this was paid on December 20, 1919 - The section of route 4 from Middletown to the Betsy Ross farm is 2.923 miles long and was graded 30 feet wide, paved with concrete to a width of 18 feet and having a depth of 8-1/2 inches in the center and of 6 inches on either side, to this was added 2 bituminous shoulders each 3 feet wide and 6 inches deep. This work was started on June 9, 1919 and was opened to traffic on December 27, 1919, but was not finished ready for inspection until August 1920. It was finally accepted and paid for on September 1, 1920. The total cost was \$140,634.29/

ROUTE 5

The Morris Plains Denville road 4.629 miles long bids



were received on October 2, 1918 and the contract was awarded on October 3, 1918 subject to the restrictions imposed by the U. S. Government. The Government approval was received on November 6, 1918, but it was deemed not wise to commence work before next spring; as a result the contract and bond were not drawn until January 9, 1919. But actual work was not started until March 31, 1919, as a result the date of completion was extended to October 15, 1919. Owing to defective pavement that had to be removed an extension of time was granted to December 1, 1919. The final cost of the road was \$198,807.13 The pavement was of warrenite on a concrete base.

#### ROUTE 5

Morris Plains, Morristown road .886 miles long is the section starting from the north end of the wall on the west side of the road, north of the railroad bridge, in the township of Hanover, and extending to the Morristown line, was started on May 15, 1919 and was completed and accepted on November 15, 1919. An extension of time was granted the contractor. He also built an extension of the pavement on the northerly end to the county garage, this latter work to be paid for by the county. The pavement laid was of concrete laid in two strips each 11 feet wide on either side of the roadway leaving a strip 18 feet wide, which is maintained under contract by the Morris County Tranaction Company. This center section is in very bad condition. The road was paid for by the State finally paid for in December 15, 1920. The cost was \$48,045.73

To these items were added Engineering & Survey \$26,220.57

Right of Way 16,657.92

Reimbursement to counties 137,032.78



Making the total disbursement for the year 1920 ending June 30, 1920

\$447,645.41

## ROUTE 6

Mantua-Woodbridge road 2.102 miles long was the section built from a point in the Mullica Hill and Woodbury Turnpike said point being about 80 feet southwest of the center line of Buckley Street in Mantua, thence northeasterly to a point 1160 feet southwesterly from the city line of Woodbury. The contract was not approved until November by the U.S. Department of Agriculture as a consequence no work was done until the last of the following March. As a result the work was not finished and paid for until October 30, 1919. The final cost was

\$107,253.74

The Mullica-Hill - Mantua Section running from a point in Mullica Hill near the road to Salem and ending at section just built. This road was first opened by user until Nov. 1, 1849, when it was vacated then operated as a toll road until Sept. 1916 when it was purchased by the County of Gloucester. It was originally laid out 66 feet wide but was purchased by the County as having a width of 60 feet. This section is 5.15 miles long. The improvement consists of a concrete pavement 18 feet wide, 8-3/4 inches deep in center and 6 inches at the sides. It was finished with gravel shoulders 6 inches deep and 3 feet wide. The road was accepted and paid for on December 12, 1920 the cost was

\$190,490.47.

There was a claim for rock encountered in deep cut. This claim amounting to

\$9,790.17

less the price for unclassified excavation 1,737.90

amounting to

8,052.27

## ROUTE 8

Highway Number 8, section 1, from Riverdale to Pompton river



a distance of 4.331 miles. This is a very level section and required much filling. The work was started August 1, 1919 and the date of completion was fixed at 8 months, but owing to many vexations delays several extensions of time were granted. The delay in the delivery of cement being one of the most important. The contractors were finally relieved of the completion of the job in March 1921. Their work was paid for on December 1, 1921. The amount paid was \$177,763.46

The Sussex Unionville road was awarded to the low bidder, but very little work was done in 1920.

#### SECTION 3.

The section, known as No. 3, 1.116 miles long from White Paper Mill to the center of Bloomingdale. This work was awarded in the spring of 1920 and was completed on December 8, 1920. The macadam shoulders, guard rail etc. were finished during the winter. The job was paid for in December \$97,747.42

#### HUNTERDON COUNTY ROUTE 9, Sect. 1

Beginning in West Portal and extending to the township line of Union Township a distance of 2.13 miles. The width of this old turnpike is 66 feet. It is now graded to a width of 30 feet and was to be paved with concrete to a width of 18 feet and a depth of 3-1/2 inches and 6 inches on either side. To be finished with shoulders 6 inches deep and 3 feet wide on each side these to be paved with macadam and finished with 1-1/2 gallons of bitumen per square yard. The work was started on July 1, 1919. It was closed for the winter on December 7, 1921. Due to the fact the sections 1 & 2 were originally approved as two separate jobs, namely U1 S. Project 10 & 16, later these jobs were let under one contract and a further revision of the plans changing the width of the concrete pavement from 18 to 20 feet and the elimination of the bituminous shoulders. The unstable concrete marked conditions



were so bad that no bids were received for furnishing the materials to be used. For this reason the paving work was stopped, until 1921. On this section there were constructed 3 bridges and 3 culverts. These were finished in time, but the grading was so heavy that the jobs were carried over into November 1921. The cost to the State was \$134,723.11.

To this the U. S. contributed \$ 42,600.00

ROUTE 9 Westfield cut off .054 miles long 40 feet wide was a grading job only and the States share was \$4,067.00

ROUTE 10 Arcadian Way in Bergen County was on the list but due to disputes about the right of way no work was done.

ROUTE 13 Three sections were approved but nothing but maintenance work was done during 1919.

These sections were Kingston Ten Mile run	3.655	miles
Ten mile run, three miles run	4.526	"
and Three mile run - New Brunswick	<u>3.841</u>	"
Making a total of	12.022	miles

ROUTE 14 The sections from Cape May to Rio Grande 4.639 miles long  
 Rio Grande to Wildwood Junction 3.575 " "  
 and Wildwood Junction to Cape May  
 Court House 2.025 miles long

were started but none were finished in 1919. This fully shows the unsettled state of affairs following the world war.



## ROUTE 1

Section 8 extending from Leesville Avenue to Milton Avenue in the City of Rahway, a distance of 0.918 miles, was improved with a concrete pavement of 29 feet wide and 9 inches deep at a total cost of \$115,590.00. To this was added a storm drain costing 8,415.40. The work was finished and paid for November 13, 1920. with the thanks of the Commission for the speedy and good work done. Due to the presence of much subsurface water, the work of constructing the storm drain was necessary.

In 1920, The Robbinsville-Windsor road 2.55 miles long was paved with concrete 18 feet wide and 10-1/2 inches deep in the center and 8 inches on the sides and finished with bituminous macadam shoulders 3 feet wide on either side. The road was graded on the sides by the convict labor gang at a total cost of \$3,303.87.

The pavement was laid by contract at a cost of \$135,319.21 and the job was paid for in November 1920. The Windsor-Hightstown Section 3.453 miles long extended the improvement into Hightstown, the concrete laid being 18 feet wide by 10-1/2 inches deep in the center and 8 inches on either side. The cost of this was \$182,480.20 and was paid by the State.

The Menlo Park, Rahway section received its final payment of \$69,329.03. Nothing new was started on Route 2 in 1920. Route 3 was striving to finish up the work started in previous years.

The same was true of Route 4.



## ROUTE 13

Section 1 - Ten Mile run 3.66 miles long was paved with concrete 18 feet wide by 10-1/2 inches deep in the center and 8 inches deep on either side and finished with a pair of bituminous shoulders each 3 feet wide and 6 inches deep as the road had been previously graded the principal cost was that of the pavement which amounted to \$222,853.24.

Accepted Nov. 3, 1920.

The three mile - ten mile section 2.263 miles long was paved with concrete 18 feet wide by 10-1/2 inches deep in the center and 8 inches deep on the sides which were protected by bituminous macadam shoulders each three feet wide by 6 inches. The total cost was \$168,012.65, and was paid by the State in February 1920. There was practically no cost for grading.

Section 3 of the same road was started on July 25, 1919, but was not completed until May 25, 1921. It extends from Three mile run to New Brunswick .It is paved with concrete 18 feet wide and 10-1/2 inches deep in the center and 8 inches on the sides. The cost of this 3.841 mile section was \$197,695.00 which included a spur into New Brunswick. The final payment was made on May 31, 1921.

## ROUTE 14

The section from Rio Grande to Wildwood Junction 3.575 miles long was paved with concrete 18 feet wide by 8-3/4 inches deep in the center and 6 inches deep on the sides almost the entire cost was for the pavement, this was \$124,986.02 Section 4 was finished from Wildwood Junction to Cape May Court House, a distance of 2.027 miles this was also 18 feet wide by



8-3/4 inches deep in the center and 6 inches deep on either side. Its cost was \$69,533.71. During the winter of 1919-1920 the first attempt was made to remove the snow from the State Highways. The department had two snow plows this number was increased during this Winter by twenty. During the Fall of 1920 this number was further increased by the purchase of 52 additional plows for mounting on motor trucks and the equipping of one Holt tractor with a snow plow for deep snow banks. This equipment was designed to remove snow from about 345 miles of State Highways. There was no particular need for this equipment until February 19, 1921, when a severe snow storm started, which lasted with only a slight break until about noon on February 22nd. The fall of snow was heavy amounting to about 18 inches. Despite this fact, the Division was able to keep traffic moving at all times on a greater part of the mileage as a result the highway mileage was open for traffic on February 23rd. In addition to this mileage, it was necessary, owing to the heavy fall of snow, to do a certain amount of work on an additional mileage of about 131 miles. The average cost per mile on the original estimated mileage was \$176.35, and on the added mileage of \$130.52. The total cost for snow removal was, for the season \$78,582.79 with an average cost for the total of over 476 miles of \$165.08 per mile.



The section of the old Newark & Pompton Turnpike from the Hamburg turnpike at Riverdale to the Pompton River at Pequannock a distance of 4.33 miles was improved with concrete 18 feet wide 8-1/2 inches deep in the center and 6 inches deep at the sides. Work was started in the Spring of 1919 and the first pavement was laid on September 30, 1919. Progress was greatly impeded by transportation difficulties, due to Railroad embargoes, and by shortage of cement, so that on July 1, 1920, less than one and one-half miles of pavement had been finished; however, the pavement was completed on November 7, 1920. The cost was paid December 1, 1921, amounting to

\$179,763.46

Section 3 of this same road runs from White paper Mill to the center of Bloomingdale, a distance of 1.162 miles. The contract was awarded in the Spring of 1920; excavation, drainage, concrete retaining wall and bridge construction were carried on through the Summer and work on the pavement was started on September 2, 1920 and completed on December 8, 1920. Work on the macadam shoulder and so forth was carried on during the Winter and was completed early in 1921. The pavement was of concrete 18 feet wide 8-1/2 inches deep in the center and 6 inches deep on the sides. The shoulders were of bituminous macadam 6 inches deep.

The total cost of this section was

\$97,747.42

The cost of removing 5 poles was paid

50.00

A short section reaching to the railroad in Butler was



finished and paid for at the same time. Its cost \$13,185.94

#### ROUTE 9

Considerable was spent on Route 9 in surveying and engineering work to prepare for further improvement. This amounted to the sum of

\$16,146.02

The cost of Right of way acquired

2,944.55

To this is added

The construction of bridges, a cost of

14,656.28

and Administration charges were added amounting to \$ 6,320.96

The amount paid toward construction work was

83,196.47

None of this was completed and the above sum consisted of partial payments.

#### ROUTE 10

Two sections of this road were started in the summer of 1919, but owing to the heavy rock cuts on Section 1, and the necessity of building concrete retaining walls, the work was extended over to the year 1921.

Section 2. This is a continuation of Section 1, leading down the west side of the palisades into the Hackensack valley. Due to the fact that this section is over a new right of way, the delay in construction caused by the construction of two large bridges does not delay the present traffic/

No completed work was paid for on this route but partial payments amounting to \$191,948.40 on new construction was paid out and in addition to this there was paid for Engineering \$33,452.16

For Right of Way \$78,795.47

and for Administration \$16,442.80

Making the total expenditures for this year \$320,638.83



On Route 11 nothing was spent	
on Route 12, the outlay was for surveying	\$13,355.51
For administration	<u>721.87</u>
Total	14,077.38

On Route 13. There was spent the following sums

Surveying and Engineering	\$ 13,982.40
Road construction	447,240.84
Bridge Construction	4,894.51
Administration	<u>25,195.67</u>

making the total paid for roads on this route 491,313.42

#### ROUTE 13

Section 1 was finished and paid for on December 21, 1920. Its length was 3.665 miles and extended from the top of the hill in Kingston to a point near Ten Mile Run. The road is laid out 66 feet wide graded to a width of 30 feet and paved with concrete to a width of 18 feet and a depth of 10-1/2 inches in the center and 8 inches on the sides and finished with shoulders 3 feet wide on each side. These shoulders have a minimum depth of 6 inches and are finished with Tarvia applied by the penetration method. There was no change in grade, the same having been fixed when the road was macadamized. The work was finished and accepted by the State on November 4, 1920. Its total cost was paid by the State, amounting to \$252,039.41/

The work on this section was done by the convicts furnished by the Keeper of the State Prison.

On Route 14 the following sums were spent.

For Surveying and Engineering	\$10,536.42
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For Right of Way	\$1,519.50
Construction	288,954.44
administration	<u>16,270.61</u>
Total	317,280.97

#### ROUTE 4

Route 4, Sections 2 & 3 of the Main Shore road were finished and paid for viz. The Rio Grande, Wildwood 3.575 miles long. This gravel road was paved with concrete to a width of 18 feet and to a depth of 8-3/4 inches in the center and 6 inches on the sides. As the road had already been graded the chief expense was for the concrete. The cost was \$124,986.02 The second section paved was from Wildwood Junction to Cape May Court House a distance of 2.027 miles. The cost of this was \$68,533.71

#### ROUTE 15

No money was spent in 1920 on Route 16 only the sum of \$60.38

The total cost of Surveying and Engineering

	\$256,192.27
The total cost of Right of Way	124,987.31
The total cost of Road construction	2,897,999.41
The total cost of Bridge	124,504.64
" " paid to reimburse the Counties	470,990.63
" " " for Administration	<u>209,242.60</u>
	4,083,916.86
Less construction a/c pay discount	<u>59,482.49</u>
	4,044,434.37



During the year 1920, the amount paid out by the State for road maintenance was as follows in addition to the above highway account

For Maintenance of roads	\$530,669.78
" operation of bridges	30,139.03
" extraordinary repair of bridges	<u>23,186.39</u>
	\$ 615,615.12

To this must be added the general charges viz.

Administration and apportionment of Motor Vehicle fund	79,325.37
Inspection of State Aid roads	20,814.01
" " Motor Vehicle roads	39,161.70
Surveying & Engineer of approved & Motor Vehicle roads	<u>21,724.88</u>
	\$160,925.96

The growth of the highway system is shown by the following Road Mileage under maintenance

Bituminous concrete no guarantee	94.856
" " under guarantee	37.90
" macadam	18.334
Waterbound macadam	167.452
Gravel	179.944
Concrete	12.419
Brick	2.56
Dirt ungraded	15.464
Durax	.220
Gravel & Oyster shells	<u>8.60</u>
	537.749



It is apt that a statement of the State Aid Fund  
be given at this time from November 1, 1917 to June 30, 1919

Public Road Funds	Carried Forward	Annual Appr.	Expended	Balance Frw'd on Contracts
Appropriation 1909-10	\$ 1,203.63			1,203.63
" 1913-14	24,594.05		14,139.93	10,454.12
" 1914-15	34,701.48		213,556.29	21,145.19
" 1915-16	264,552.50		173,787.89	90,764.61
" 1916-17	278,280.98		172,831.05	105,399.93
1917-18		500,000.00		
Less amount aside for administration		53,789.70		231,753.60
1918-19		500,000.00		
Less amount set aside for administration		75,000.00		135,563.21
Total	\$603,332.64			<hr/> 596,286.29

#### Appropriations to State Aid Counties

Assets				Liabilities	
Cash balance appropriation 1909-10	\$1,203.63			Approved contracts for new construction outstanding	\$520,042.75
" " " 1913-14	10,454.12			Extras	6,155.25
" " " 1914-15	21,145.19			Reserve for	47,979.82
" " " 1915-16	90,764.61			Extras, etc.	
" " " 1916-17	105,399.93			Outstanding on Req. to cover apportionment	366,364.85
" " " 1918-19	<u>412,952.08</u>			Saved on Contracts	<u>12,108.47</u>
	962,651.14				962,651.14

#### Motor Vehicle Fund

November 1917 to June 30, 1919

#### Funds

Balance forward November 1, 1917 \$ 1,702,317.65

Receipts Nov.1,1917 to June 30, 1918	\$1,966,609.09
" July 1,1918 to June 30, 1919	2,729,154.03
	\$6,378,161.77

### Expended

Paid on allotments Nov.1,1916 to June 30,1917	1,018,121.93
Appr.Expenses Motor Vehicle Dept. nov.1,1917	161,800.00
to June 30,1918	
Appor to Wrightstown,Tenally roads	121,000.00
Paid on allotments July 1,1918 to June 30, 1919	2,029,886.82
Appro.Expenses Motor Vehicle Dept.	
July 1,1918 to June 30,1919	173,360.00
Appor to Division Maintenance 1919	225,397.00
Total amount expended	\$ 3,729,565.75
Balance forward	2,668,596.02

### Assets

Cash Balance	2,668,596.02
Allotments for Maintenance outstanding	1,579,628.25
Apportionments made	<u>993,327.18</u>
	<u>2,572,955.43</u>
Balance available	95,640.59

The State Aid fund statement from July 1, 1919 to June 30,1920 was as follows balance from previous year

Appropriation 1909-10	1,203.63		Bal.forw'd on contrs. 1,203.63
1913-14	10,454.12		10,454.12
1914-15	21,145.19		21,145.19
1915-16	90,764.61	59,644.93	31,119.68
1916-17	105,399.93	18,796.85	86,601.08
1917-18	320,731.58	110,669.46	155,586.14
1918-19	412,952.08	32,629.24	224,725.43
	500,000.00		



Less Amt. set aside for  
Administration

	73,000.00	6,590.52	140,416.23
962,651.14	427,000.00	228,333.00	671,251.50

Appropriations State Aid	Apprv Entrants outstanding
Cash Balance appropriation 1909-10 \$1,203.63	Extras 594,956.64
1913-14 10,454.12	4,622.40
1914-15 21,145.19	Res. for Ext. 45,973.14
1915-16 31,119.68	Apptmts 490,066.64
1916-17 86,601.08	Saved on 25,699.32
1917-18 210,062.12	Contrs.
1918-19 380,322.84	
1919-20 420,409.48	
\$ 1,161,318.14	\$ 1,161,318.14

# The Statement of the State Highway Fund June 30, 1920

## Assets

Cash Balance	\$4,437,215.61
Federal Aid Bal. unpaid	965,556.90
Due from other Depts	2,777.08
Automobiles	28,828.16
Camp Bldgs.	23,507.49
Road Machinery	66,499.38
Tools	7,259.20
Trucks	83,543.35
Auto Supplies	200.00
Truck D.	12,107.56

Road Materials Invtry	2,226.42
State Highway System	<u>5,409,248.44</u>
	11,038,969.59

# Liabilities

Road Contracts outstanding	\$ 2,890,551.05
Bridge " "	213,424.50
Bridge preliminaries	6,745.00
Estimated cost of construction	607,116.53
Reimbursement to Counties	<u>149,795.44</u>
Total amount of contracts	3,867,632.52
Equity of State in Roads & Bridges	5,409,248.44
" " " in material & equipment on hand	224,171.56
Accounts payable	39,482.49
Balance available	<u>1,498,434.58</u>
	11,038,969.59

## Statement of State Aid Appropriations to June 30, 1921,

Appropriation for	Balance forw'd	Expended	Balance forward on Contracts
1909-10	1,203.63		1,203.63
" 1913-14	10,454.12	10,454.12	
" 1914-15	21,145.19	1 144.85	21,000.34
1915-16	31,119.68	1,830.42	29,289.26
1916-17	86,601.08	51,321.59	35,279.49
1917-18	210,062.12	126,542.19	74,519.93
1918-19	380,322.84	143,001.73	237,321.11
1919-20	420,409.48	124,515.62	<u>175,833.86</u>
			574,457.62
1920-21	0	500,000	
Less amt. set aside for administrat.		<u>75,000</u>	
\$ 1,161,318.14		425,000 -	\$480,934.27
		- 23-	



A statement of the State Highway Fund as of June 30,  
1921 is as follows:

State Aid Balance forward from previous year	\$ 1,161,318.14
State Aid Appropriation year 1920-21	500,000.00
Essex Co. Reimbursement Appropriation 1920-21	25,000.00
Motor Vehicle fund balance forward	2,750,745.70
Motor Vehicle fund receipts 7-1-20 - 6-30-21	4,069,475.97
Maintenance by S.H. Dept. bal.fwd from previous year	234,334.33
State Road tax bal. forw from previous year	4,437,215.61
State Road tax receipts	3,569,725.97
Federal Aid certified on St.Highw.Const.bal fwd from previous year	965,556.90
Federal Aid certified for year 1920-21	367,950.36
Federal Aid certified on County Rds.from prev.yr.	34,357.40
Receipts from permits,for opening in State Highway	<u>4,071.27</u>
	\$ 18,119,751.65

For Liability June 30, 1921

State Aid Appropriation(Counties)	\$1,073,828.11
Motor Vehicle Fund (Counties)	2,072,068.13
State Highway Construction (Contracts 3,293,233.58	
Less amount rec.on Klockner & Black contr. 56,671.50	3,236,562.08
Maintenance by Dept.(Contract)	15,159.28
	6,397,617.60

Total Expenditure July 1, 1920 - June 30, 1921

State Aid Appropriation to Counties	480,934.27
Essex County reimbursement	25,000.00
Motor Vehicle Fund to Counties	3,081,454.32
Maintenance by State Highway Dept.	2,137,362.06

State Highway Construction	4,259,485.76	
Loss expenditure on a/c of Acts rec'd	27,034.09	
		4,232,451.67
Federal Aid State Highway Constr.		509,371.83
Federal Aid, County Construction		14,479.09
General Road Fund, Administration of appropriation		175,000.00
		10,656,053.24
TOTAL BALANCE AVAILABLE		
State Aid Appropriation		31,555.76
Motor Vehicle Fund		3,634.99
State Road Tax		537,927.33
Federal Aid State Highway Construction		824,135.43
Federal Aid County Road Construction		19,878.31
Less Deficit Maint.by highway	351,051.15	<u>1,066,080.81</u>
		18,119,751.65

A new feature in the work of the Department was that of installing scales at selected locations along the highways for the purpose of determining the overloaded trucks. Upon the erection and completion of these scales they were turned over to the Motor Vehicle Department for operation. The cost of these aggregated the sum of \$18,475.00

The fines collected since their installation have more than paid the outlay, and further this has greatly reduced the overloading of trucks. The fine being fixed at \$100.00 has quite a deterring effect on overloading. Thus reducing the



heavy strain on our pavement.

Another new feature introduced this year was the maintenance and marking of detours around new work. This was greatly appreciated by the motoring public.

The projects division, which was centralized this year, is handling Township, State Aid and Motor Vehicle work, prior to the time of construction, then the work is turned over to the Construction Division for carrying it to its completion. The success attending this method was so great that the Projects Division then and there took over the construction of Township roads. Thus relieving the construction Division and thereby giving more time to the Division Engineer toward the work on the main routes.

ROUTE 2 - The Burlington Roebling road 5.00 miles long was improved with concrete 18 feet wide by a depth of 8-1/2 inches in the center and 6 inches on either side. After many delays this road which was begun in 1919 was finished accepted and paid for in 1921. The Cost was \$303,898.05. The Roebling-Bordentown road 4.004 miles long was paved with concrete 18 feet wide except a short stretch which was 38 feet wide. The uniform depth was 8-1/2 inches in the center and 6 inches on either side. The grading on this section added greatly to the cost. The work progressed spasmodically but was finally finished in 1921 -

The total cost of the completed work was \$405,703.90

#### ROUTE 3

Sections A & B was a grading job begun by Klockner & Black who defaulted their work and their bondsmen paid the

the Weldon Contracting Company to finish the job. This they did and the final cost was \$160,974.50

This section extended from Ancora to Atco in the County of Camden. The second section was paid for, the amount \$164,491.87 Thus clearing up a very tedious job.

#### ROUTE 4

A short section extending over Pine & Bordentown Avenues in South Amboy and having a length of 0.582 miles was paved to a width of from 32 feet to 53 feet and to a depth of 8 inches at a total cost of \$70,177.44

This work was started May 5, 1921. Concrete laid June 13, 1921 and completed July 29, 1921. The right side, including trolley track pavement for entire length was opened to traffic on July 29, 1921.

The total cost of this work was \$70,177.44

#### ROUTE 4

The section through Keyport was improved first by the Borough of Keyport acquiring an extra strip 5 feet wide on the south side of the road. There was much delay caused by the failure of the Standard Gas Company of Keyport to repair its mains. The delay on the part of the Borough authorities to complete the installation of house connections and the resetting of the curb. This work was done under an ordinance for widening of Front Street, passed on February 28, 1921. The work was finished and inspected on November 14, 1921, and accepted by the commission. The cost was \$75,071.32 was paid by the State. The length of this work was 0.844 miles.

Section 5 of Route 4, was let to the Newark Paving Company on June 15, 1921, but was not completed that year.



## ROUTE 5

Section 2, Starting at the east end of the bridge over the Musconetcong river, in the Hackettstown and ending at the netcong-Budd Lake Road opposite the house of Max King a distance of 6.601 miles was improved by State Labor. The width of the right of way is 50 feet and is practically all new right of way only about .6 of a miles, which takes in part of the Budds Lake road. This latter portion was laid out in 1857, as a two rod road, but it was not exactly on the original described line. A description of the alignment was filed June 22, 1857.

## ROUTE 4

Section 5, From Eatontown to Red Bank a distance of 3.626 miles. The pavement is of asphalt 3 inches deep on a 6 inch concrete foundation the total cost of the improvement was

\$194,627.33

The people of Eatontown are much more alive to the benefits of improved roads and readily agreed to pay for the extra width necessary to carry the pavement to the curb on either side.

The section of Route 4, from Chestnut neck to New Gretna has been a constant burden on the Highway Department The first improvement over this section was of oyster shells laid on cedar poles, soon the traffic increased to such an extent that the entire road sank. A final attempt to build a stable road was made, and this met with only fair success The extras paid by the State amounted to \$81,619.70

To this is added the contract price of \$232,252.22

Brings the finished total to 313,871.92

This was paid October 6, 1922

The fill made by the State in July and December 1922 for a distance of 0.2785 miles. In order to form an approach to the

new bridge its cost was

\$53,767.98

ROUTE 5

Section 4 from Madison to Chatham was accepted on December 5, 1922. Said acceptance being effective December 28, 1922. Much delay was caused by the number of trenches, the number of these is double that planned for in the beginning. This section is 2.90 miles long. That it is closely built up is evidenced by the fact that 109 connections were dug in Chatham two and 249 in Madison borough and this digging of house connections has even progressed on Sundays.

The total cost to the State was

\$239,590.90

In nerve strain it was much more

ROUTE 5

Section 2, Starting at the east end of the bridge over the Musconetcong river in the Borough of Hackettstown and ending at the Netcong Budd Lake road opposite the house of Max King a distance of 6.601 miles was improved by State Labor crews. The width of the right of way is 50 feet and is practically all new right of way except about .6 of a mile which takes in part of the old Budds Lake road and this was only laid out 33 feet wide; in 1857. The roads between Budds Lake & Hackettstown might almost be called private as they simply led from one house to another. The line finally adopted was worked out by Fred Salmon the County Engineer but though opposed by the local owners was finally acknowledged as the best line over Schooleys mountain. The old route from German Valley over Schooleys mountain had a maximum grade of 12 per cent and was the main route from Morris County to Hackettstown and the Delaware river.

ROUTE 1

Section 5 begins in Hightstown and extends to the



bridge over the Millstone river. This bridge was rebuilt to take care of the increased traffic. The pavement is 1.458 miles long by 18 feet wide and has a depth of 10-1/2 inches in the center and 8 inches on the sides and finished with bituminous shoulders each 3 feet wide, except between Franklin Street and Rogers Avenue, the business section of Hightstown where the bituminous shoulders were omitted and the street paved from curb to curb, the borough authorities paying for the extra width beyond 20 feet.

The cost of the completed section was \$134,576.51 which was paid in 1922.

#### Section 9.

The State Highway mileage on January 1, 1924 was as follows:

County	Miles	Rt.	
Atlantic	52.570	1 Jersey city to Trenton	60.363
Bergen	10.310	2, Trenton to Camden	34.560
Burlington	32.379	3, Camden to Absecon	50.222
Camden	38.773	4, Rahway to Absecon	111.66 8
Cape May	48.870	5, Newark to Delaware	
Cumberland	42.901	River Bridge at Delaware	62.080
Essex	22.304	6, Camden to Bridgeton & Salem	75.382
Gloucester	21.926	7, Hightstown to Asbury Pk.	27.579
Hudson	4.640	8, Montclair to N.Y. State Line	48.500
Hunterdon	21.497	9, Elizabeth to Phillipsburg	49.450
Mercer	34.128	10, Paterson to Ft. Lee Ferry	10.310
Middlesex	47.865	11, Newark to Paterson	3.947

Monmouth	56.347	12, Paterson to Phillipsburg	40.428
Morris	56.105	13, New Brunswick to Trenton	25.047
Ocean	52.036	14, Egg Harbor City to Cape	46.770
Passaic	20.260	15, Bridgetown to Cape May C.H.	5.301
Salem	29.867	16, Morristown to Trenton	36.676
Somerset	46.490		
Sussex	21.540	Exclusive of routes	
Union	20.995	added to Legislature Mach.	
Warren	<u>46.470</u>	as. 1923	728.273
	728.273		

The portion of Route 17, from the northerly line of Hackensack to the New York State Line was taken over by the Commission on January 1, 1924, thus adding 15.818 miles to Bergen Counties mileage and to the totals



The following roads were started and completed under the present Commission and paid for from the Motor Vehicle Aid. Camden County, Evesham road 2.117 miles long by a graded width of 30 feet and paved 20 feet wide on an old macadam foundation; this pavement consisted of 3 inches of sheet asphalt, thoroughly compacted.

The State's share of this work cost	\$25,170.23
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Kaighn Avenue .122 miles long consisted of the same asphalt finish on broken stone base - The cost to the State was - - - - -	3,232.43
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The Moorestown Pike Section 2 patching	399.60
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Hudson County repaired the Bergen Turnpike for a distance of 3.11 miles by reshaping the macadam foundation and finishing with 3 inch penetration; The pavement is 20 feet wide and cost the State	45,000.00
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The County Avenue was resurfaced for a distance of 1.75 miles and a width of 20 feet with sheet asphalt. The State's share of this was	55,000.00
--	-----------

Salem County finished Sections 2 and 3 of the Pennsville-Salem Road, a distance of 2.843 miles. This was graded 30 feet wide and paved 20 feet wide. The State paid 50 per cent of the cost, viz:	45,174.20
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Sussex County paved Newton Avenue, Sussex, for a distance of .033 miles, a width of 36 feet. The State's share of this was	1,713.84
--	----------

Also Mill Street, in Sussex Boro, a distance of  
.075 miles by 30 feet wide at a cost of \$ 6,477.30

Union County finished two short sections with  
concrete, viz, Springfield Avenue, Branch Mills 1.25 miles  
long and 20 feet wide. The State's share was 22,621.01  
and the New Providence section .94 miles long, and  
paved 22 feet wide. The State's share of this was 26,875.34

The total spent by the State for these was \$231,661.95

The State paid Sussex County from the State  
Aid Fund for grading and drainage of Freedom-Stillwater  
Roads \$ 15,000.00

The following work under Motor Vehicle Aid  
was let in 1922 but was not finished until 1923 -

Camden County - Cove Road .63 miles long was  
paved with sheet asphalt on a refinished macadam base  
to a width of 20 feet and a depth of 3 inches. The  
State's share was \$ 9,156.85

Road construction during 1923 consisted in  
the completion of the following State Aid jobs:-

Cumberland County, Cohansey-Husted Gravel  
6.28 miles long, graded 30 feet wide, paved 20 feet  
wide, State's share 22,229.93

Essex County, Laurel Avenue, concrete  
1.83 miles long, graded 50 feet wide, paved 20 feet wide-40,992.30

Hudson County-Bergen Pike, graded 66 feet  
wide, paved 40 feet wide, State's share 34,558.96



Morris County-Long Valley, Hunterdon Co.

Line 3.955 miles long, grading and drainage only \$13,131.29

Ocean County, Barnegat-Buddtown Section 2,

2.23 miles long, gravel 24 feet wide, State's share 8,155.40

Jacksons Mills-Imlaytown 2.33 miles long

gravel 24 feet wide, State's share 6,670.49

Passaic County, Belmont Avenue, Passaic,

.722 miles long, concrete 15 to 45 feet wide 27,814.85

Somerset County, Watchung Avenue .74 miles

long, graded 36 to 40 feet, paved 20 feet wide with  
bituminous macadam, State share 12,332.34

Sussex County, Fredon-Newton Section 2,

.74 miles long, graded 30 feet wide, concrete 18 feet  
wide 10,998.76

and Yellow Frame-Fredon grading and drainage 3.66  
miles long, 30 feet wide 19,248.53

Warren County-Washington-Buttzville

.548 miles long, graded 30 feet wide, paved 18 feet  
wide with concrete, State's share 19,000.00  
\$215,132.85

The amount spent by the State for bridges during the 1923 was composed of several dependent items. There were 16 bridges completed and paid for in the year. 19 bridges were started and completed; 30 bridges were started but not completed, thus making a total of 65 bridges under construction in 1923.

The Commission inspected 24 bridges and approved and accepted them.

The cost of the bridges started before January 1923  
 was - - - - - \$842,431.55

The cost of 19 bridges started and completed in 1923 - - - - - 226,575.58  
 (1923)

Making a total spent on finished bridges / \$1,069,007.13

In addition the amount spent for bridges under construction but not completed was - - \$1,371,889.16

Making the total paid on bridge work - \$2,314,734.73

Another factor in the cost of the construction of the State Highways was that of purchasing the necessary land required for straightening and widening the routes selected. This work consisted in negotiating for 401 parcels needed. The result was as follows: 279 agreements were received; 234 were accepted by the Commission; 48 were referred for condemnation, of the latter 3 awards were made. The cost of maintenance on the 625.534 miles, plus the roads between the bridges on the old pike - - - 1.300

Plus the duplication of dist. on the

Lincoln Highway - - - 1.812

Plus the duplication between Cranford and

Elizabeth - - - 1.750

and institutional roads, not part of highway

system - - - 2.848  
 This brings the total under maintenance to 633.244



The cost of this maintenance for the year was \$1,157,087.87

Another factor in road improvement was the Township Aid Act passed in 1916; this provides that the State may grant aid to townships for the grading and drainage of unimproved township roads. The money set aside for this purpose under the provisions of the original act was \$5,000 to the townships in each county, making a total of \$105,000.00 in the State. This money was taken from the receipts of the Motor Vehicle Aid Fund and the State at that time paid 50 per cent of the cost of the work. The 1916 Act has since been changed so that the sum has now been increased to \$25,000.00 for each township in the 21 Counties of the State, making a total of \$525,000.00 in the State, and the State paying 75 per cent of the cost of the work.

On July 1, 1923, applications were on file under the provisions of the Township Aid Act requesting a total State share of \$508,809.11. In quite a number of counties, however, the total asked for exceeded \$25,000.00 but it was not legal to approve any amount exceeding this.

The total highway mileage in the State outside of cities and towns is about as follows:

Township roads	13.323 miles
County roads	2.951 "
State Highways	.726 "
Total	<hr/> 17.000

The township roads comprise 78 per cent of the total highway mileage of the State.

During the year 1923 there were 186.58 miles of township

aid work under construction costing about \$1,000,000.00; 85.38 miles of this total was completed during the year at a cost of about \$500,000.00; the State's share being \$311,000.00. This is an average cost of about \$5,800.00 per mile.

There was apportioned to the 21 counties of the State the sum of \$2,500,000.00 from the Motor Vehicle Fund for the year 1923. The basis of this apportionment is an adaptation of the plan used by the Federal Government. Three factors are considered in determining the amount to be distributed to each county. These are the percentage of county area, county population and county highway mileage to the total of each of these factors in the State. These are determined and the acreage of these is taken as the percentage to be used for each county.

The apportionment to each County is as follows:-

Atlantic	\$ 129,275.00
Bergen	154,975.00
Burlington	170,000.00
Camden	104,575.00
Cape May	84,075.00
Cumberland	117,325.00
Essex	233,050.00
Gloucester	78,000.00
Hudson	186,025.00
Hunterdon	71,950.00
Mercer	112,025.00
Middlesex	147,975.00
Monmouth	149,625.00
Morris	122,100.00
Ocean	118,450.00
Passaic	146,225.00
Salem	78,150.00
Somerset	66,550.00
Sussex	78,725.00
Union	84,575.00
Warren	66,350.00
	<hr/>
	\$2,500,000.00



This money is used by the counties for the repair, maintenance and reconstruction of improved county roads.

The State Highway Commission has adopted upon the recommendation of the New Jersey Association of County Engineers, standard cautionary and directionary signs. A copy of these signs has been forwarded to each county engineer and they will be erected on county roads throughout the State. These will also be used on the State Highways so that a uniform policy of marking will be used throughout the State.

The first Federal Aid Funds on road construction in New Jersey were used in Salem County on the Pennsgrove-Woodstown Road, a county road in Salem County, before any State Highway System was established. The project statement for this work was submitted to the Government on March 12, 1917, the Federal Government's apportionment was \$59,212.68. This is now known as the Harding Highway and extends from Pennsgrove to Atlantic City.

Previous to 1923, the Federal Government paid 50 per cent of the cost up to \$20,000 per mile.

In 1923 this maximum share was reduced to \$16,250.00 per mile and in 1924 the Government's share will be limited to \$15,000.00 per mile.

#### Traffic Counting

Sixty-three stations were established in the State

where traffic counts are taken at regular intervals.

At the most important points these traffic counts are taken 24 hours per day for an entire week.

Traffic counts taken at several points in the State during 1923 show the following information for a 24 hour period.

State Highway Route	#3 White Horse Pike	- 11,000 cars
" " "	#1 Albany St. Bridge	- 12,000 "
" " "	#4 Morgan So. Amboy	- 19,000 "
" " "	#1 Rahway	- 22,000 "

The maintenance and operation of bridges during the past year has assumed a greater importance than in any previous year. Very considerable major repairs were made to the Island Heights and Seaside Park Bridge under contract, and by the division on the Ocean City Bridge. Very considerable major repairs to the operating machinery of the Passaic River Bridge, between Newark and Jersey City.

A complete inspection of all bridges in the system late in the year indicates that, with the exception of some bridges which have been recommended for reconstruction, the bridges on the entire system are, in general, in better condition than ever before, both as to structural condition and preservative paint coat.

Due to the allotment of large quantities of war surplus material by the Government, the department grew to such an extent that it was found necessary, during the year 1922, to erect a large and modern service station for the purpose of properly housing and maintaining of our equipment, together



with sufficient land to allow for future development.

A very desirable 24 acre tract of land was secured two miles northwest of Trenton on the Trenton branch of the Reading Railroad.

On August 1, 1922, the building was completed and occupied. The plant is known as the Fernwood Service Station. The various buildings are as follows: - Main garage building, 400 feet by 100 feet, one story high of fireproof construction, namely a steel frame with brick curtain walls. In this is an office room 40 feet square, also a wash-room 40 feet square. A space 10 feet by 12 feet is partitioned off for an emergency hospital.

In addition to the service plant, the following storage buildings have been erected:

Two cold storage buildings 260 feet by 60 feet each.

One steel building 100 feet by 65 feet.

One steel building 100 feet by 30 feet used for storing construction and maintenance materials.

The testing of the various materials used in State and State Aid highway construction during the year 1923 was performed in the same laboratory as in previous years. The chief work of a laboratory can be enumerated as follows:

1. To insure that the materials used are of the proper character.

2. That these materials are used in the manner specified.

3. That the pavements constructed have the required physical and chemical properties and composition.

The general character of concrete pavements and foundations was previously determined by concrete cubes or cylinders cast during construction. When about a week old they were sent to the laboratory and their strength determined when 28 days old. These cubes gave only part of the data required as they do not show the thickness of the pavement or the position of the reinforcing material. Neither do they always correctly represent the average density or strength of the concrete.

Consequently, since the cores cut from a finished concrete pavement or foundation enable us to determine the density, strength, thickness, position of reinforcing metal and character of subgrade it is best that the character of the concrete in both concrete pavements and foundations be determined by cutting cores therefrom instead of by the test cubes.

The calyx core drill has proved quite conclusively that the general character and thickness of a concrete pavement or foundation cannot be judged from the appearance of its surface for the value of these pavements varies with their thickness, density and strength. The core drill has made it possible to easily determine these factors. These cores also enable us to detect and correct errors in methods of construction that might be otherwise overlooked.



During the past season two complete core drill outfits have been employed but were not able to keep up with the work; hence it is indicated that three core drills be used during 1934.

The following highway routes were added by the legislature by an act signed March 23, 1923.

Route 17, Newark via Kearney, Rutherford, Hackensack, Ridgewood and Ramsey to the New York State line, the distance in Bergen County being 26.5 mile and in Hudson County of 1.5 mile, a total of 28.00

On the the same route from a point on Route No. 6 at Westville and continues through Thorofare, Paulsboro, Gibbstown and Bridgeport and thence to Pennsgrove, in the County of Salem, connecting at said point with the proposed State Highway, Gloucester 16.00 miles

Salem	4.0	"
	<hr/>	
	20.00	

Route 18, Pennsgrove via Sharpstown, Woodstown, Pole Tavern, Elmer, Malaga Buena, Mays Landing, Pleasantville to Atlantic City, Salem 23.6

Gloucester	8.0
Atlantic	30.8

62.4

Also Hoboken to the New York State line via Weehawken, West Hoboken, Town of Union, North Bergen, Fairview, Hudson, Ridgewood, Palisade Park, Fort Lee Bergen, Englewood Cliffs, Tenafly and Alpine 20.00

4

Camden to Merchantville, through Moorestown,  
 Mount Holly, Pemberton, New Lisbon, Browns Mills and  
 Lakehurst to Toms River and ending at the junction of  
 Route No. 4 with the Toms River, Burlington - - 29.2  
 Lakehurst Road at Toms River, Camden - - 3.2  
 Ocean - - 17.6  
 50.00

Route 19, a point on Route No. 14 at Seaville  
 via Palerma, Marmora-Beesley's Point, Somers Point to  
 Pleasantville and Cape May - - 7.2  
 connecting with Route No. 4 at Absecon, Atlantic 10.8  
 18.00

Route 20, a point on Route No. 3 extending  
 via West Berlin, Gibbstown and Haddonfield, connect-  
 ing with Hadden Avenue in the Boro of Haddonfield,  
 and continuing to the approach to the Delaware River  
 Bridge, - - - - - Camden 13.2  
 13.2

Route 20, Westville to Millville commencing  
 at a point on Route 6 at Westville and extending  
 through Hurffville, Glassboro, Cumberland 9.2  
 Malaga and Vineland to Millville, Gloucester 24.0  
 33.2

Berlin to Blue Anchor, known as the  
 Berline- "Blue Anchor Road", thence from Blue  
 Anchor to Mays Landing, Camden 12.5



Known as the Mays Landing Road,	Atlantic	13.5	
From Route No.2 at Five Points			26.00
in the County of Burlington, via Burlington		30.00	
Moorestown, Evesboro, Cross Road, Atlantic		6.00	
Medford and Atsion, to Route No.3, Camden		3.5	
at Hammonton			39.5
Total additional mileage exclusive of Rt.11			<u>310.3</u>
Route 11 (as originally laid out, still to be taken over or disposed of)			
Newark to Paterson via Belleville, Essex	4.0		
Bloomfield, Nutley and Passaic, Passaic	0.5	4.5	
Route 11 (as taken over by State Highway Commission)			
Newark to Paterson via Belleville			
Nutley and Passaic,	Essex		3.947

On May 1, 1923,

The records of the department show that there were outstanding contracts for the construction of highways in the amount of \$6,703,203.60, covering 102.814 miles of highway, plus the amount of \$286,663.79 for bridge construction. There were also outstanding county and township aid projects in the amount of \$3,590,632.52. In addition to the completion of this work, the commission outlined a construction program for the year 1923 aggregating 75.824 miles of this program there has been placed under contract to this date 66.525 miles at a total contract cost \$5,329,978.05, plus bridge construction

at a cost of \$1,369,840.21. There was completed of  
58.23 miles  
pavement let/and a considerable amount of bridge work  
was paid for.

The balance of the 1922 State Road Tax available	
and at present placed to the credit of the dept.	\$3,200,000.00
Funds available from Bond issue 1924, 25 & 26	24,000,000.00
Anticipated balance of Mill tax	1,500,000.00
Federal Aid \$900,000. per annum for 30 yrs.	2,700,000.00
plus allotment from Motor Vehicle Funds	
for the year 1924	\$1,250,000.00
" " " 1925	1,750,000.00
" " " 1926	2,250,000.00
	<u>5,250,000.00</u>
A grand total of - - - -	\$36,650,000.00

A new record was made by the Department in the Year 1924, namely, the construction program for the year was practically completed during the working season. The carrying out of this large amount of work, together with the completion of the unfinished portion of last years program, plus the State aid work, has resulted in the disbursing by the Highway Department during the past year of \$20,740,899.90, which is much in excess of the expenditure in any one year in the history of the Department.

The volume of work handled by the Department during the year just past included the following:-



On account of Department obligations for  
construction (State Road Tax, Bond Funds and Federal Aid)

Construction of roads	\$7,180,336.71
Construction of bridge	3,754,735.73
Reimbursement to counties on account of work done under the reimbursement act-	2,561,956.70
Expenditure from Motor Vehicle Fund	
Reconstruction of roads	201,337.30
Reconstruction of bridges	8,000.00
Advisory Board Fund	26,321.24
Maintenance and reconstruction of State, County and Township roads	5,618,023.82
County Road Construction	111,700.96
	<hr/>
Administration	\$19,472,462.46
Surveying	388,359.40
	<hr/>
	880,047.44
	<hr/>
	\$20,740,869.30

The roads completed in the northern section were:-

Route 5      Section 11, Delaware-Belvidere 4.879 miles long runs from the Toll Bridge across the Delaware River southeasterly to a point about a mile and a half northeast of the county seat, Belvidere. The road throughout its almost entire length follows the line of the Delaware River. This was an old township road originally, with a slight gravel surface, this short length of road contained many dangerous places. These were eliminated by the new alignment, as follows: the right angle turn under the Delaware, Lackawanna and Western Railroad culvert at Station 76; the narrow stretch along the Delaware River between Station 52 and 69; the sharp turn at the Pennsylvania Railroad culvert at station 80; and the right angle turn at the intersection with the Belvidere, Hackettstown Road. The elimination of the death trap at station 76 was accomplished by keeping

the new road on the west side of the railroad, between this point and the Toll Bridge. This new location also eliminated the dangerous grade crossing at the Delaware Station and the narrow one way undercrossing at station 48.

The widening of the portions of the road along the Delaware River, between station 52 and 69, required an eighteen to twenty foot fill in the river, as widening on the east side was impossible on account of a twenty-five foot railroad embankment. As a result this sixteen hundred feet of road is no longer a source of worry to the users. At station 81 an under-grade railroad culvert at the foot of an eight per cent grade with a right angle turn entirely obscured by the culvert itself has been replaced by a six per cent grade, a thirty foot width of concrete pavement and a line of sight over three hundred feet in length.

About forty per cent of the entire alignment was constructed over new location. In making the new construction thirty feet wide, it was necessary to widen entirely on the west side on account of the railroad embankment on the east.

Owing to the exposed location of the improvement, the pavement was laid with a double line of reinforcement.

The total length of the project is 4.879 miles, 40% of the improvement was laid over new right of way, thus making a saving of 2,200 feet in distance.

The maximum grade was reduced from 10% to 6.42%. The maximum curvature was reduced from 47 degrees and seven right



angle turns, to a maximum of 20 degrees on the new construction.

The latter curvature existing at the Pennsylvania Railroad undercrossing. Except for this one instance, the curvature was held to six degrees.

The cost to date is \$259,960.42.

Route 5. Section 12, Netcong Canal culvert road a length of 2.40 miles extending from the Lackawanna Railroad Station in Netcong to the intersection of the Ledgewood Hopatcong Road at the canal culvert, just west of Ledgewood. On this job, a grade crossing in the center of Netcong and a very narrow overhead structure, with bad right angle approaches, in Netcong, were eliminated by keeping the new location on the southerly side of the railroad. Due to the abandonment of the Morris Canal, it was also possible to eliminate the narrow and dangerous Canal Culvert underpass at the Ledgewood end. A saving of 1,000 feet in length was made by relocating the old line. The maximum curvature was reduced from 17 degrees to 9 degrees by relocating 28.6 per cent of the entire length. On all of the heavy grades a thirty foot pavement with curb on either side has been used. Three fifths of the entire length is of this type. Work was not finished because of freezing weather.

Route 5 Section 13. The Budd Lake-Netcong Road 1.556 miles long was graded and drained only. The new alignment lies between Stations 4 + 50 near the end of the present concrete pavement

at the Budd Lake end and Station 68 at the end of Lake Street, Netcong. Between these limits, the old road has twelve curves, some of which are almost right angles and have been the cause of many accidents. The new line in this same distance has but four curves, one of which is a four degree and the others are two degrees or less. All of the work was completed during the month of July.

The concrete paving of this section was let September 9, 1924. Work started September 17, 1924 but cold weather caused it to cease December 13, 1924. The main pavement was completed on December 25, 1924, only driveways and intersections remain to be completed.

Section 14 of this route extends from Keeler Street<sup>to</sup> the Seven Bridge Road, through the business section of Springfield Township, a distance of 0.345 miles. The section while short in length was deemed to be of sufficient importance to be improved quickly, due to the fact of the heavy traffic using it, because of the radiating roads through it leading to the important business centers of Newark, Elizabeth, Plainfield, etc.

Work was started on July 30, 1924 by removing the large trees in the center of the town which were within the graded width of the road. Half of the road was excavated at a time as local traffic had to be maintained and the other trolley track kept intact until the cars could run over the new track.



An agreement was entered into with Springfield Township which provided that the extra paving and curbing beyond the central 29 foot strip was to be paid for by the municipality. All of the concrete pavement was finished on November 11, 1924. Following the completion of the pavement, the curbing and other minor items were completed. All of the work was completed on December 20, 1924.

The total final cost was	\$48,574.75
State's share	35,743.70
Municipality's share	12,831.05

Route 8 Section 2, Montclair-Verona. This project forms the gateway to Route 8 which extends from Montclair across the north central part of New Jersey to Unionville, N.Y. This work consisted mainly of a road intersection on a large scale. The length of the contract is only 567 lineal feet.

The pavement was laid 40 feet wide with curbing on each side and the intersection of Bloomfield Avenue two 40 foot approaches were constructed in wing formation with a triangular central plaza. Previous to construction the old approach had always been a source of danger and the same made a right angle intersection with Bloomfield Avenue and the grade and sight distance were poor. The total final cost was \$36,637.65.

Section 4, Charlotteburg-Smith Mills, a distance of 2.983 miles was paved with concrete 20 feet wide by 8 inches deep. The contract was awarded in August and work was started August 24, 1923

and follows the Pequannock River Valley for its entire length. The maximum grade was reduced from 8.3% to 7%. The actual work was started the 24, 1923 and completed October 30, 1924. The work was accepted November 10, 1924.

The total cost was \$318,565.01.

Route 8 Section 4. The Charlotteburg-Smith Mills Road, extending from the southerly end of Section 4A to Smith Mills, a distance of 2.983 miles was improved with 8 inches of concrete, 20 feet wide, laid in the center of a 30 foot graded roadway. The maximum curvature was reduced from 35 degrees to 12 degrees. The maximum grade was reduced from 8.3% to 7%. Three large, heavy cement rubble masonry retaining walls had to be constructed. There were four bridges included in the road contract, two of which were entirely reconstructed and two rebuilt, making use of the existing abutments, which were extended. In all bridge work, it was necessary to construct one-half at a time in order to provide for local traffic. The work was completed on October 30, 1924 and accepted on November 10, 1924.

Section 4A is a continuation of Section 4 and carries to work to Newfoundland following the line of the Pequannock River, through this hill section of Northwestern Passaic County.

Many worth while improvements were made in the alignment, 32% of this section was built over entirely new right of way. The maximum grade was reduced from 8% to 7% but the greatest change was made in the alignment as the maximum curvature was reduced from

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32 degrees to 12 degrees. It was impossible to secure a detour for this road during construction; therefore, all traffic was taken care of on the half width while the opposite side was being constructed. This traffic was so heavy on Saturdays that all work had to be stopped. The timber corduroy which was originally designed to be placed over the swamp in front of the Charlottsburg station was substituted by a reinforced concrete mat. Tests were made for good bottom which was found about thirty-three feet below the original ground. Filling of this portion of the road continued until November 25, 1924, when subsidence seemed to stop.

Due to settlement on this swamp, the contractor could not finish on time.

On account of the steep grades, the pavement between stations 73 and 92 is thirty feet wide; between 92 and 101, it is 25 feet wide; and between stations 108+50 and 113+14, it is 30 feet wide, the remainder being 20 feet wide. The work was completed on December 6, 1924.

Route 9 Section 12, Plainfield-Westfield 2.383 miles long from the city line of Plainfield to the depot park in Westfield. The original plan provided for a pavement 20 feet wide with 5 foot shoulders along its entire length. On July 1, 1924, after the contract had been awarded, the Town of Westfield decided to pave the whole 40 feet width of the roadway. New concrete curbs were also constructed and storm sewers provided for. Notwithstanding this

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addition to the work, the contract was finished ahead of time.

The total cost of the improvement was \$166,624.73

The State's share was 126,013.43

The Town's share was 40,611.30

Section 15 of the same route from the intersection of North Avenue and West Broad Street, Westfield, and extends to a point just west of the Lehigh Valley R.R. Bridge in Roselle Park, being 3.2 miles long. This improvement covers four municipalities; three of which entered into an agreement with the Commission for full width pavement as follows:

Through the business section of Westfield, the pavement was laid 40 feet wide between the curb line. In Cranford full width pavement was constructed through the length of the township except a short section in the business center where a long scale improvement is planned.

In order to complete the work in the 1924 construction season, two mixing plants were used. In addition to the road pavement nearly 15,000 lineal feet of concrete curbing was constructed, at average rate of 400 feet daily. The total cost of the work was

\$280,134.50

States share 200,317.76

Municipality's share 79,816.74

Route 10 Section 1A-Arcadian Way-Fort Lee Ferry a distance of 0.324 miles.

This project with Section 2A and C from the final connecting links in Route No. 10, which extends from Paterson to Fort Lee Ferry at Edgewater. This section was paved 36 feet wide by 10 inches in



depth with concrete. This section extends over an entirely new right of way which was graded in 1920. A temporary pavement of bituminous macadam was laid on it in 1921. For the present work, the above mentioned pavement was scarified and reshaped in order to receive the new 10 inch concrete pavement.

The maximum grade is 6.5 per cent and there is a total rise of 204 feet from the foot to the top of the Palisades. The paved width is 36 feet with a granite curb on each side and a 5 foot space provided for sidewalk on one side. All concrete pavement was laid August 22, 1924 and the contract completed September 5, 1924, 41 days ahead of time.

The total final cost was \$148,677.97.

Section No. 2A, Broad Avenue, Ridgefield.

This section, together wections 1A and 6 comprising the connecting links which mark the entire completion of Route 10, from Paterson to Fort Lee Ferry at Edgewater. This section is only 0.464 miles long by 20 feet wide and 8 inches deep of concrete, plus a few street intersection. The job was completed in 43 1/2 working days. Its cost was \$26,889.70.

Section 6 of this same road having a length of 3.748 miles extends from the easterly end of the Passaic River Bridge, Paterson, to the westerly city line of Hackensack and from the final link of Route 10, from Paterson to Fort Lee Ferry.

The graded width of the new highway is 30 feet, 20 feet of 8 inch concrete with 5 foot earth shoulders on each

side. On grades, in order to take care of the drainage, the pavement was widened to 30 feet and a concrete curb was built on each side. All of the work was completed on October 18, 1924, 20 1/2 working days ahead of the schedule set.

The total cost was \$205,473.23

Route 11, Sections 6 and 7. Main Avenue City of Clifton. These sections extend over Main Avenue, in the City between Paterson and Passaic. As the same contractor was low bidder on both sections, they will be considered as one. The total length of the job is 1.63 miles. The width of the pavement is 21 feet and its depth is 7 inches. The pavement is of sheet asphalt on a concrete base. The concrete base was laid by a local contractor and the asphalt was laid by the State Highway maintenance division. Due to the fact that this improvement lies within a municipality with a population of over 16,000, the Highway Commission, according to law, is not in a position to contribute the usual funds that apply on highways through municipalities with a population under the above mentioned limit.

The improvement included the paving of the trolley tracks with reclipped granite blocks on concrete foundation and placing of concrete foundation for roadway pavement between the tracks and curbing on each side. It was originally proposed to include asphalt pavement between the tracks and curbing on each side. It was intended originally to include asphalt pavement among the contract items. However, the bid for the same when

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received was considered excessive and this item was omitted from the contract. After the completion of the first contract, bids were again received on the placing of sheet asphalt top. The prices were, however, again considered excessive and finally it was agreed by the parties interested that the Maintenance Division place the pavement at a cost of \$1.76 per square yard.

The work was finally completed in June 1924.

The total cost was \$122,058.08

The State's share was the agreed amount \$60,000.00

Leaving the municipalities share at 61,058.08

Route 11 Section 9, Washington Avenue, Belleville, has a length of 1.80 miles. The pavement is of asphalt and Stone Block on a concrete foundation, the total depth of the pavement is 9 inches and its width is 60 feet. The job extends from the northerly city line of Newark to the Nutley town line.

Agreements were entered into between the Town of Belleville, the Public Service Railway and the State Highway Commission on the following basis:

The State Highway Commission to provide for the grading and paving of the central strip 22 feet in width. This to include the necessary paving of the relocated trolley tracks which were placed in the central portion of the highway. 50 per cent of necessary storm water drainage located within the highway limits was also paid for by the State. The Traction Company

agreed to place its tracks in the center, furnish the necessary track materials, also the sum of \$6,000.00 toward the cost of new track pavement which was accepted in lieu of all obligations to maintain the track pavement.

All other work to be taken care of by the Town of Belleville.

The contract was let too late in the season to assure final completion of all work so it was decided to confine the 1924 work on the northerly section, between Jerolemon Street and the Nutley Town line. On November 5, 1924, all work which it was planned to have completed during the 1924 season was finished.

Route 12 Section 6, Port Colden-Stephensburg, a length of 4.85 miles. The width of the concrete pavement varied from 20 to 30 feet and its depth was 8 inches. All of the road pavement was completed on December 15, 1924. The cleaning up and trimming were left until Spring, as a result the whole contract was not finally accepted and paid for until May 1925. The final cost was \$332,067.45.

Section 7 of the same road from Stephensburg to the Hackettstown, Schooley Mountain Road comprises the easterly four miles of the improvement between Port Colden and Hackettstown. The maximum grade was reduced by one per cent and the maximum curvature by six degrees. 27 per cent of the new alignment is carried over



a new right of way. Work on this was started on May 10th and completed on December 12, 1914. The pavement was of concrete 8 inches deep and varying in width from 20 to 30 feet. The final cost was \$253,348.97. This contract also included the building of four new bridges and the changing of the course of the Musconnetcong River at two locations, thus greatly improving the alignment of the road.

Route 16 Section No. 6, Passaic River to the Morris Township line, a distance of 2.766 miles from a point about 600 feet north of the Passaic River to the Morris Township line. This road is known locally as Mt. Kemble Avenue and follows the easterly slope of the ridge upon which Washington established his camp in 1779.

The alignment was changed at only two points, viz: between stations 203 and 208, which greatly improved the dangerous curve and steep grade at these points and at the southern end where a new bridge was built. The work was completed August 6, 1924. This contract, together with Section 6A formed the last links in the completed paving on Route 16, between Somerville and Morristown.

The total cost was \$208,633.22

The bridge over the Passaic River at the southern end of the job cost \$32,531.84, and was finished and accepted on September 30, 1924. The work was finished on October 11, 1924. Section No. 6 From Bernardsville to the Passaic River, a distance

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of 2.185 miles was paved with concrete from Quimby Avenue, Bernardsville, at the end of the 18 foot pavement on Section 1. The new road runs northeasterly to Blaziers Corner, thence over the road leading to Madisonville for about 1000 feet. From this point it follows a new right of way to Route 16, Section 6, about 600 feet northeast of the Passaic River at Van Doren's Mill, the result is a great improvement in both line and grade over the old highway. This new right of way forced the construction of a new bridge 130 feet down stream from the old bridge which was torn down after completion of the new road. The maximum curvature has been reduced from right angle turns on the old road to a maximum curvature of 5 degrees on the new. Bernards Township made an agreement with the department to pay for the extra width of pavement in the center of Bernardsville. The total cost to the State was \$164,406.58

The cost to the municipality was 11,574.57

In the Central Construction Division, there were 54.821 miles under construction, of these 43.958 miles were finished during the year as follows:-

Route 1 - George Street, New Brunswick, a length of 1500, feet of track reconstruction was started but was stopped by the early cold weather.

Route 4 - Section 20, Manasquan River, Sea Girt, 2.832 miles long, paved with concrete 20 and 35 feet wide by 8 inches deep. This improvement begins at the Manasquan River and runs through the



Borough of Sea Girt to Kreck Pond. The Boro of Manasquan paid for widening the pavement through its business section.

Hence from the total cost of	\$192,033.15
must be deducted the boro's share, viz:	<u>19,632.55</u>
leaving the State's share at	\$172,400.60

This was paid in November 1924.

Route 4 - Section 30A, Manasquan Grade Elimination. This work consisted of building the approaches to the overhead bridge being constructed by the Pennsylvania railroad over its tracks. The work was not finished until January 1925.

Section 21, Point Pleasant-Laurelton Road having a length of 4.696 miles was accepted as finished by the Highway Commission on March 25, 1924. This road was graded to the standard 30 feet and paved 20 feet wide by 8 inches deep and finished with gravel shoulders 5 feet wide by 8 inches deep. 93.6 per cent of this work was finished during 1923. The whole job was completed on March 17, 1924. The total cost was \$260,033.60. The whole work was finished 52 1/2 days ahead of schedule.

Section 22 of this same road, known as Main Street, Asbury Park, and having a length of .664 miles was paved with 3 inches of asphalt on a 6 inch concrete base. This pavement was done from curb to curb, a width of 60 feet, the City of Asbury Park paying for the extra width. The State share of the improvement cost \$108,990.83, and cities expense for the extra width was \$56,364.71. The work was started in 1923 and 27.6 per cent was completed during that year.

Sections 23 and 24 from Toms River to Lakewood, a distance of 7.464 miles <sup>with improvement</sup> by a graded width of 30 to 36 feet and a pavement 20 feet wide by 8 inches deep. This was of concrete and was finished with gravel shoulders 6 inches deep. This job was done by the State Department of Institution and Agencies. The work was started on May 19, 1924 and finished December 9, 1924. The total cost was \$348,888.65. The work was finished 19 1/2 days ahead of schedule.

Section 25A, Morgan Grade Crossing Elimination on the new cut-off, having a length of 0.6 miles, was graded 40 feet wide and paved with concrete 20 feet wide. Only 15 per cent of the work was finished in 1924. This section forms the approaches to the overhead bridge now being constructed over the N.Y. & L.B. Railroad.

Section 26, Cedar Creek to Toms River, a distance of 6.04 miles. This old gravel road was graded 40 feet wide, the center portion being of concrete 20 feet wide and the remaining width was finished with the old gravel. The concrete was 20 feet wide by 8 inches deep and gravel shoulders were made 10 feet wide by 8 inches deep. Only .6 per cent of the work was done in 1924.

Route 7 - Section 2, from the golf course to Anderson's Corner, a length of 2.611 miles was grade 30 feet wide and paved with 20 feet of concrete 8 inches deep. From the golf course to Hamilton, a distance of 1.5 miles the road is being built over a new alignment. This reduces the length one quarter of mile and eliminates



some dangerous curves and an expensive bridge. The completion of this work had to be carried over to 1925.

Section 3 of Route 7, from Anderson's Corner to the Colt's Neck Road, a distance of 3.793 miles, carries this improvement further west. The road was graded 30 feet wide and paved 20 feet wide with concrete 8 inches deep and finished with 5 feet of gravel shoulders on each side. The road was finished November 1, 1924, 33 working days ahead of the schedule. The total cost was \$173,190.09.

Route 9-

Section 11, Lincoln Avenue, Dunellen. The improvement runs through the business section of Dunellen, as a result the borough shared in the cost of the work of extending the pavement to the curb. The pavement as a consequence varied in width from 11 feet to 40 and 42 feet. The State's share of the cost was \$128,581.72. The remainder being paid by the borough of Dunellen. The State incurred an additional expense for maintaining a detour through the borough streets of \$18,321.17.

Section 13, From Whitehouse to the Somerset County Line, a distance of 2.90 miles, was graded 30 feet wide and paved 20 feet wide by 8 inches deep and finished with shoulders 5 feet wide. The work was started April 10, 1924 and was finished on September 26, 1924. The total cost of the job was \$174,254.08.

Section 14, from the Somerset County Line to North

Branch, a distance of 2.036 miles was graded 30 feet wide and paved 20 feet width and 8 inches deep with a double line of reinforcement on account of the wet base. The work was pushed so that it was completed on September 8, 1924, 16 working days ahead of schedule. The cost was \$114,310.51. The job was accepted by the State on Sept. 24, 1934.

Route 13- Section 5, Trenton-Lawrenceville Road, 3.768 miles long extends from the Trenton City Line to Lawrenceville. The road was graded from 18.5 to 31 feet wide and paved from 16.5 to 25 feet wide. These changes in width were caused by the location of the trolley tracks. The work started on September 27, 1923 and was finished August 4, 1924. The total cost was \$326,213.63.

Section 6, Begins at the end of Section 5 and runs to the Princeton Borough Line, a distance of 4.98 miles and a graded width of 27 to 36 feet. The width of the pavement varied from 20 feet in the open country to 36 feet in the business section of Lawrenceville. The depth of the pavement was 11 inches, composed of 8 inches of concrete and 3 inches of sheet asphalt. The work was started on August 21, 1923 and completed October 6, 1924. The State's share of the cost was \$482,045.42.

Lawrence Township share was	<u>32,590.14</u>
A total of	\$514,635.56



Route 16 - Section 5, South Somerville to Woods Tavern, a distance of 2.917 miles. It was graded 30 feet wide and paved 20 feet wide with concrete 8 inches deep. The work was started on September 13, 1923 and finished August 28, 1924 at a total cost of \$219,000.46. In addition to the above cost, three bridges were built at a cost of \$32,994.20; 1.33 miles of this road was built over new alignment which eliminated several dangerous turns and saved one quarter of a mile of roadway.

Section 7, Bayard Lane, Princeton, a length of .623 miles from Nassau Street to the trolley track, was improved for its entire length and width, the State's portion of 20 feet of the width cost \$50,660.02; the boro's share of

the cost was	<u>14,653.18</u>
The total	
cost was	\$65,313.20

Section 8, The Harlingen Cut-off has a length of .422 miles and in proportion to its length is one of the most important improvements of the year. This new alignment eliminated three dangerous turns on the narrow streets of Harlingen and with the \$8,000. bridge removes many possible dangers. The pavement was of concrete 20 feet wide and 8 inches deep. The road was grade to the standard 30 feet. The work started July 1, 1924 and was finished on November 18, 1924.

Its total cost was \$37,549.80

The cost of detours on Route 16 were quite large as

follows:-

Pluckamin - Somerville	\$11,242.06
Passaic River-Morris Twp.Line	3,866.14
Pluckamin- Somerville	788.09
Mine Brook-Bedminster	10,161.92
Bedminster, Pluckamin	3,852.49
So. Somerville-Woods Tavern	24,006.46
Somerville, Royce Valley	22,736.19
Somerville Streets	1,000.00
Byard Lane	3,553.53
Total -	<u>\$81,206.88</u>

#### SOUTHERN DIVISION

Route 2 - Section No. 4. This line passing under the Pennsylvania railroad was improved to relieve the people of Bordentown from the danger resulting from through traffic passing through the heart of the city. The alignment is much straighter. Two railroad grade crossings are eliminated. Easy access is had to the City proper by three roads, one at either end and a third in the center. This years work consisted of grading, drainage, surfacing of the highway with cinders and the building of three bridges. Two of them box culverts of 9 and 10 foot span and the third a concrete encased steel girdes bridge of 97 foot span. The cost of the entire job was \$77,037.22. The work was started on August 18, 1923 and was completed July 26, 1924.

Route 2 - Section 5 From Bordentown to Crosswicks Creek, a distance of 2.94 miles. The work on this section was started in 1923 and completed in the first half of 1924. The work was done by men from the State Prison under a contract between the State Highway Department and the Department of Institution and Agencies.

The work consisted in widening and resurfacing with con-



crete pavement an old macadam road; 1.5 miles was paved to a width of 20 feet and the remainder to from 23 to 40 feet. The contract included the relocation and rebuilding of over a mile of trolley track. This road furnishes a much needed outlet from Bordentown to Trenton and points North.

While this section of Route 2 is part of the State Highway System, it is also of great importance to the road system of Burlington County, as several main improved County highways end in Bordentown and this road furnishes their only outlet to the North.

The work was started on June 1, 1923 and finished on June 25, 1924. The contract price as adjusted and paid for at \$211,014.49.

Section 6 of the same route, from Burlington to Bridgeboro, a distance of 4.04 miles was paved with asphalt on the widened and repaired macadam base. The work of rebuilding the base and widening the grading was done by the men of the Maintenance Department. The asphalt was applied by the Union Paving Company in very fast time.

The contract called for the surface to be applied in 60 days, while actual work was finished in 18 days.

The road proper is a valuable link in the State Highway Route No. 2.

Route 3 - Section 11, from Berlin to Hammonton, a distance of 10.75 miles was widened with gravel from 30 to 46 feet.

The traffic on the White Horse Pike, of which this section is a part, has now exceeded the comfortable capacity of the road and this work is preparatory to future contract to be let for widening the concrete pavement.

The work done at this time consisted of widening of the grading from 30 to over 40 feet and the placing of a 9 to 11 foot, eight inch gravel shoulder, giving a new width of 29 feet.

The cost of this work was \$84,656.66.

It was paid for on January 6, 1925.

Section 12 from Hamonton to Egg Harbor, a distance of 12.730 miles, this a continuation of the work of widening the old White Horse Pike. The graded width has been extended from 30 to 45 feet and the placing of sufficient eight inch gravel surface, so that the combined width of gravel and concrete will be 29 feet.

This is preparatory to the widening of the concrete surface of the designed 29 feet.

It is also necessary to widen the present width of 50 feet or less to a minimum of sixty-six feet. This work is not yet finished.

Section 13, Egg Harbor to Absecon, a distance of 8.22 miles. This is the third contract let on the widening of the White Horse Pike in order to give required width for the needed new pavement. As this work was not started until September 17, 1924, it was not finished by the end of the year.



Route 6 -

Section No.10 from Quinton to Marlboro, a distance of 6.46 miles, was paved 20 and 30 feet wide with concrete 8 inches deep. The work was started on May 14, 1924. The road was graded and graveled in 1920 and the present contract consisted of laying a concrete pavement 20 feet wide and finishing the shoulders, 5 feet wide on each side with gravel giving a paved width of 30 feet. Through the town of Quinton, at the west end of the contract, the pavement was made 30 feet wide, the additional width being paid for by the township.

The State share of the cost was	\$281,593.65
Quinton Township share	<u>8,307.05</u>
Total Cost	\$289,900.70

This section is the first of the last two sections of this road necessary to be paved to furnish a hard surfaced highway from Salem to Bridgeton, thus connecting the two county seats. The road, originally a toll road, was purchased by Salem County in 1920 and afterwards became part of the State Highway System.

SECTION 12, in Cumberland County is known as East Commerce Street, Bridgeton, its length is 1.314 miles. This is the third section to be let for the improvement of the road between Millville and Bridgeton. This work was done entirely within the city limits and was done by the City of Bridgeton under a reimbursement agreement with the Highway Commission.

The improvement consisted of 0.748 miles of 20 foot pavement on a 30 foot graded width with a trolley track on the west side and 0.459 miles of 30 to 40 foot pavement with a trolley track in the center in the built up section of the City. While the contract was let for this section in 1922, due to a controversy about the construction of the car tracks, it was not accepted until December 1924.

The road is one of the most admired improvements in the City as it replaces an old dirt and macadam road through the main section of the City.

The cost to the State was ..... \$63,503.97

The cost to the City of Bridgeton..... 25,022.38

The people are very well pleased with the improvement.

SECTION 13, from Bridgeton to Marlboro, a distance of 5.746 miles. This is the last section to be let between Salem and Bridgeton on Route No. 6 and completes the concrete pavement the two County seats. The pavement is of concrete 20 feet wide by 8 inches deep and is finished with two gravel shoulders, each 5 ft. wide, and



beyond this a dirt shoulder 2.5 feet wide on each side, making a graded roadway 35 feet wide. In passing through the Town of Shilo, the old road previously made a right angle turn, and further due to the fact that several stores had been built close to the line, the line of sight was very bad.

Property was bought and five buildings were moved, and the road paved to a minimum width of 30 feet through this dangerous spot, the additional width was paid for by the adjoining Townships of Hopewell and Stow Creek.

The State's share of the cost was.....\$260,865.93

The Townships paid the sum of..... 8,265.36

#### ROUTE 14

Section 9, Ocean View to Seaville, a distance of 3.522 miles was graded to a width of 30 and 40 feet and paved 20 feet wide with concrete having a depth of 8 inches. It was further graded to a width of 40 feet; this necessitated increasing the right-of-way width from 40 feet to 66 feet.

The contract was let in September 1923, but due to bad weather, it was carried over to 1924. It was finished early in 1924. It is one of the last links in the Route No. 14.

The cost of the finished road to the State.....\$187,600.65

In addition two culverts were built at a cost.. 15,837.80

Section 10, Seaville to Petersburg, a length of 3.302 miles was graded 30 feet wide and paved 20 feet wide by a depth of 8 inches deep of concrete.

As the contract was let so late, the work was carried over to 1925.

SECTION 11 - Petersburg to Tuckahoe, a distance of 3.397 miles was started on September 10, 1924, but was not finished in 1924. This is the last section of Route No. 14 to be built in Cape May County. In building this section, it was found necessary to widen the right-of-way from 40 to 66 feet or more. Within this section are two notable improvements, one is the building of the approaches to an overhead bridge on the line of the Reading Railroad at Middletown, and the other a change of alignment through Tuckahoe.

#### ROUTE 15.

SECTION 4 - Main Street, Millville, a distance of 0.986 miles. This is the last work necessary to complete a paved highway between Bridgeton, the County seat of Cumberland County, and Millville, the main manufacturing center of the County.

The work is entirely within the city limits. It consisted of the grading and paving of the street to a minimum width of 32 feet. Curbs were set for the entire length and single trolley tracks were moved from the side to the center and the tracks were paved with concrete. The construction of this track was rather unusual - steel ties were used and a concrete surface laid in place of ballast. Due to the paving being laid to the full width of the street, it was necessary to put in a storm sewer.

The cost of this work was born by the State, City and Trolley Company.



SECTION 12, in Cumberland County is known as East Commerce Street, Bridgeton, its length is 1.314 miles. This is the third section to be let for the improvement of the road between Millville and Bridgeton. This work was done entirely within the city limits and was done by the City of Bridgeton under a reimbursement agreement with the Highway Commission.

The improvement consisted of 0.748 miles of 20 foot pavement on a 30 foot graded width with a trolley track on the west side and 0.459 miles of 30 to 40 foot pavement with a trolley track in the center in the built up section of the City. While the contract was let for this section in 1932, due to a controversy about the construction of the car tracks, it was not accepted until December 1934.

The road is one of the most admired improvements in the City as it replaces an old dirt and macadam road through the main section of the City.

The cost to the State was.....\$63,503.97

The cost to the City of Bridgeton.... 26,022.38

The people are very well pleased with the improvement.

SECTION 13, from Bridgeton to Marlboro, a distance of 5.746 miles. This is the last section to be let between Salem and Bridgeton on Route No. 6 and completes the concrete pavement, the two County seats. The pavement is of concrete 20 feet wide by 8 inches deep and is finished with two gravel shoulders, each 5 feet wide, and

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The total cost of the work was.....\$142,655.58

Divided as follows:

State..... 73,928.89

City..... 47,198.24

Trolley Company.. 21,528.45

By agreement, the State advanced the Trolley Company's share under an agreement that the trolley company should reimburse the State.

SECTION No. 5 - The Millville - Menantico Creek Road, 3.30 miles long was graded 35 feet wide and paved 20 feet wide by 8 inches deep with concrete. This contract was awarded on December 6, 1923, but work, by agreement, was not started until April 1, 1924, but was finished on June 14, 1924. This section can really be considered as the first section of Route No. 15 built to connect Millville, Bridgeton, and points north with the seashore towns.

The construction, with the exception of the bridge area and approaches, at Menantico Creek, where a change in alignment was made in order to reduce the cost of construction of a new bridge, is entirely within the limits of the old road.

The cost to the State was.....\$141,906.31.

Section No. 6 - The Leesburg Cut Off having a length of 3.072 miles was improved over practically a new right-of way or on the line of Township roads that had never been improved. This construction cut out two railroad grade crossings, and by passes, the two old time shipping towns of Dorchester and Leesburg. The work was done by the Depart-



of Institutions and Agencies, with the men from the Prison Farm at Teesburg. Great difficulty was experienced at some points, in carrying on the work, due to the fact that the new right-of-way was underlaid with clay or quicksand and was further subject to overflows from the adjacent swamps. A great deal of emergency drainage was necessary and a number of unplanned drainage ditches had to be dug, but no increase in cost was made.

The total cost was.....\$59,385.40.

#### ROUTE 20

Section No. 1 - The Clayton Glassboro Road, 4.508 miles long, was started so late in the year, that only about one mile of pavement was laid. The State Highway System as of December 31, 1924 is as follows:

Total under maintenance.....	767.369
Under construction.....	21.808
Under contractors guarantee.....	32,929
Bridge.....	1.982
Extensions to Bridge and Tunnel.....	<u>16.150</u>
Total.....	840.238

#### 1925

The State Highway System in 1923, including Routes Nos. 1 to 16, and including both the Jersey City and Camden Extensions over highways then existing, comprised about 728,273 miles. This total was exclusive of connecting link through cities of more than 16,000 population other than those included in the extensions above mentioned. Of the above 728,273 miles, there were 267,155 miles completed about January 1, 1923. There were then about 79,786 miles under

contract in various stages of completion. Since that date, the following mileages of hard surface pavement have been completed or nearing completion on the original Routes Nos. 1 to 16, inclusive, as follows:

Hand over contracts from 1922 completed since  
January 1, 1923.....79.786 miles

Hard surface pavements completed in 1923.....63.065 "

" " " " " the  
1924 program.....72.559 "

Hard surface pavements completed or nearing  
completion on the 1925 program.....80.177 "

This latter figure includes a distance of 1.296  
miles through Perth Amboy

Total completed on Routes No. 1 to No. 16 since  
January 1, 1923.....295.587

Completed previous January 1, 1923.....267.135

Hard Surface pavements completed to date on Routes  
added by the legislature other than No. 1 to No.  
16 (4.508 miles in 1924 - 11.706 miles during  
1925).....Total..... 16.214

Total hard surface pavements completed or nearing  
completion on State Highways to date (exclusive of  
connecting links other than through the City of  
Perth Amboy which is included).....578.936 miles

Since 1923, the State Highway System was augmented  
by route added and extensions made by the legislature  
during 1923, 1924, and 1925.

The total mileage taken over by the State Highway  
Commission to date is about.....845.587 "

The total legislative mileage is about 1312.133  
miles, thus leaving about .....473.548  
not taken over as yet.

The work of the Highway Department during the past year  
has exceeded its previous high record. While for unavoidable  
reasons a few contracts will be carried over the winter, there  
will be, nevertheless, 91,823 miles of hard surface pavements,  
on State Highways during the year, exclusive of widening pro-



jects, as against a total of 77,067 miles constructed during 1924. The State Highways have been maintained in good condition, the maintenance and repair work carried on by the counties with Motor Vehicle Aid has shown marked improvement; and the Townships and Boroughs have displayed more interest than ever before in taking advantage of funds available to them....167 miles of such roads have been improved as against 99 miles last year. In carrying out the above work, the Department has disbursed about \$21,500,000.00. The volume of work handled by the Department this year include the following items:

Construction, Road Tax, Bond Funds, and Federal Aid as follows:

Construction of Roads.....	\$5,088,656.08
Construction of Bridge.....	2,969,966.25
Reimbursement to Counties.....	2,340,012.05
Expenditure from reconstruction fund	
Reconstruction of roads.....	797,077.50
	57,369.86
Expenditure from Advisory Board Fund	
(Motor Vehicle Fund).....	2,619,713.54
Expense for Maintenance and reconstruction of State, County, and Township roads.....	6,034,280.87
Construction of County Roads.....	76,040.92
	\$19,983,117.07
Administration.....	414,154.08
Surveying and Engineering.....	1,005,979.91
	\$21,403,151.06

A traffic census taken during the past year shows that every mile of the 312 miles constructed in the past three years is carrying a volume of traffic justifying its construction.

Some of the shore routes during the summer of 1925 carried 25,000 cars in 16 hours, while on Route No. 4 at Asbury Park 40,421 vehicles were counted in 16 hours. Traffic has been found to reach its peak during the month of August, and its low point in February.

#### ROUTE 2

Section 4A - Burlington, Cut-Off has a length of 2.27 miles. This is a new line for the route through the City of Burlington, taking the State Highway away from the business section of the City and at the same time greatly improving the alignment. The work was commenced on March 23, 1925, and completed and accepted on October 13, 1925.

The cost of the completed job was.....\$95,626.80

In addition, a further charge was made of..... 9,415.90 for maintaining detours through the city during construction. The extra work paid for consisted of the approaches to the three bridges built on the job. Two of these are known as the  
Pompaston Creek bridge..... 12,519.98  
Swedes Run Bridge..... 9,185.43  
and they were paid for in September, 1925.

South Broad Street (widening) a distance of 1.16 miles, a width of 13 feet on the shoulder was concreted and graded. The cost of concrete.....\$17,855.80  
that of grading was..... 10,333.12

This was paid for by the State on July 25, 1925.

The rapid growth of traffic on South Broad Street forced this improvement.

SECTION 8 of Route No. 2 from Pensauken to Bridgeboro, a distance of 5.324 miles was improved with asphalt on a macadam base as an experiment, but was a partial success only as the finished pavement was wavy in many spots. There was no change in grade or alignment. The road was finished and accepted in December,



but the payment was not made until January 1926.

The cost of this work was.....\$83,189.85  
or \$161.56 above the contract price.

The construction of the approaches to the new bridge over the Delaware River were pushed forward, but only one contract was finished in the year. That is known as Section 3, and has a length of 1,828 miles. The cost of this grading was \$413,391.60. The entire outlay was made for grading.

Much preliminary work was done and grading, building bridges, etc., for the approaches to the new Delaware Bridge, but no other work was finished in 1925 on this section.

The Albany Street Bridge was in such bad a ape that extraordinary repairs were required, as a consequence, the old bridge was condemned and immediate work was demanded.

The new work consisted in adding three plate girders and a Bascule draw were built and paid for. The work was finished and paid for on May 12, 1925. The outlay was....\$394,730.00. As this bridge is the main inlet to the City of New Brunswick from the North and is also a part of Route No. 1 leading to the capitol at Trenton, as well as the main route to Philadelphia and points south and west, the extraordinary need for this work was manifest. Another side issue was the demand for the improvement, of the trolley transfer in the City of New Brunswick, this was finished and paid for on April 28, 1925. The cost of this work was charged to the city under a reimbursement agreement. The cost of this was.....\$39,297.05. The paving of this same section was paid for on May 18, 1925. The cost of this work was.....\$28,861.67.

#### ROUTE 3

Section 12, Egg Harbor to Hammonton, a distance of 12.738 miles was extended in width by 11 feet on each side. The gravel was laid to a compacted depth of 8 inches. The cost was.....\$101,035.76.

This work was finished and paid for on July 14, 1925. This is the preparatory work needed to prepare for concrete widening later.

Section 13, from Absecon to Egg Harbor, a distance of 8.22 miles, widened 11 feet on each side to prepare the road for future concreting.

The cost of this work was.....\$40,482.40

This work is made necessary by the rapidly increasing volume of travel to Atlantic City.

#### ROUTE 4

The Manasquan Grade Crossing elimination 1097 feet long was paved with gravel at a total cost of.....\$56,632.71.

This completes a section that has been some time under improvement. It was accepted as finished on May 12, 1925.

It was paid for in the amount of.....\$122,872.33.

Section 25A is the designation to the concreting of Section 25. The pavement was the standard 20 feet wide by 8 inches deep and was finished and paid for on August 18, 1925.

The cost was.....\$85,480.50.

#### ROUTE 4

Section 13A. The Manasquan Bridge Approach, a length of 0.991 miles, was paved with concrete, but the work was not finished until the following year.

Section 25 of the same road was also carried over to 1926.



Section 26 - Toms River to Cedar Creek, a distance of 6.040 miles was started on December 20, 1924, and was paved with concrete to a width of 20 feet by a depth of 8 inches. As this road was already well graded, the principal cost was for the paving. By improving the line the final finished length was 5.731 miles. The total cost...\$306,117.34

In addition to the paving two bridges were built - one over Cedar Creek cost.....\$9,913.75  
The other over Mill Creek cost.....19,616.55.

Section 28 - The Waretown-Barnegat Road 2.102 miles long was paved with the concrete 20 feet wide and 8 inches deep. This is still another section of the main highway from New York, Newark, and northeastern New Jersey to Atlantic City. The road was finished with the excellent gravel of which it was built in the early nineties. The total cost of building this section was.....\$108,456.34

It was accepted and paid for September 8, 1925.

The Lochiel Creek Bridge was also included in the above contract, but was paid for separately.

Its cost was.....\$9,000.00.  
and was paid for on September 8, 1925.

Section 27 of Route 4 extending from Cedar Creek to Forked River, a distance of 3.67 miles was paved with concrete 20 feet wide by 8 inches deep at a revised cost of...\$186,606.87

This amount was paid by the State on July 28, 1925.

A bridge was built over the middle and North Branches of Forked River at a cost of.....\$14,432.40.

This was paid for by the State on September 8, 1925.

Amboy Avenue, Perth Amboy, was paved with asphalt on a concrete base for a distance of 1.122 miles on a contract

agreement with the City. The State's share whereby the State contributed the sum of.....\$75,000.00

This was paid on April 28, 1925. The entire cost of this improvement was.....\$156,422.10,  
Section 29, from Barnegat to Manahawken, a distance of 3.95 miles was paved with concrete 20 feet wide by 8 inches deep. The completed cost was.....\$183,101.85

This was paid on October 20, 1925.

A bridge was built over Manasquan River. This was of the encased plate girder type, The work was completed and paid for on December 22, 1925.....Total.....\$404,924.14.  
One other bridge was built on this route and finished in December, but payment was not made until January 5, 1926.

The complete cost was.....\$ 29,924.30.

The Cedar Bonnet Bridge over Manahawken Bay was finally finished and paid for on September 15, 1925. The final payment was passed October 29, 1929.

Route 5, Section 11, The Delaware-Belvidere Road, 4.887 miles long was paved with concrete 20 feet wide by 8 inches deep, was finished December 2, 1924, but was not paid till January 1925. The total cost was.....\$405,409.73.

A full description of this road was made in 1924, report Section 14, Morris Avenue, Springfield, was described in the 1924 report.

Three small bridges were built on Section 11 at a total cost.....\$28,044.40

These were paid for on May 19, 1925.

Another bridge was built over the Musconetong River at a total cost of.....\$67,640.00



Section 12, from Netcong to the Canal Culvert, a distance of 2.402 miles was paved with concrete 20 feet wide by 8 inches deep. Much rock cutting was necessary at the canal culvert to remove a dangerous sharp turn at the foot of a steep grade. This increased the cost of this section which was.....\$257,031.38.

The removal of the old Morris Canal at this point aided very much in improving the alignment. The road was accepted on June 30, 1925.

Section 13 of Route No. 5, between Budds Lake and Netcong, a distance of 1.553 miles, was improved with concrete 20 feet wide by 8 inches deep. The old line was greatly improved by a further straightening of the line. The cost of this section was.....\$102,101.70.

And was paid for on June 3, 1925. The improvement of alignment was not marked.

Route 5, Section 13, from Farmers Hotel to Milburn Avenue, a distance of 2.50 miles was paved to its full road width that is from curb to curb, the State to let the entire work and the Townships of Springfield and Union to reimburse the State for their share of the cost beyond the 29 foot width to be improved by the State.

The cost of the entire work was.....\$307,917.56

And was accepted by the State on November 17, 1925.

Section 15A. The road through Maplewood Township from Milburn Avenue, the same being 1.481 miles long, was improved with concrete 8 inches deep and of varying width as follows, 16 feet each side of the trolley tracks; 18 feet of the center being occupied by the said tracks. This improvement was made jointly with the Township of Maplewood, the latter extending

the pavement to the entire width of the roadway at its own expense. The total cost of the job was.....\$244,562.96 This was accepted with the exception of a stretch of curb on December 22, 1925. The latter was finally placed and accepted on May 18, 1926.

Route 5 - Section 8B and 11A - Great Meadows - Barker's Corner, a distance of 0.57 miles, was paved with concrete 20 feet wide by 8 inches deep except at certain points where it was necessary to carry the width to the curb line. The road work was finished and accepted on September 29, 1925, but due to the number of claims filed, it was not finally settled for until April 19, 1932.

The amount of the payment was.....\$27,699.50.

ROUTE 6 - Woodbury - Broad Street for a distance of 0.55 miles between Salem Avenue and Cooper Street was improved after the Public Service Railway Co., had removed its tracks. After the removal of the tracks, the street was paved with asphalt 3 inches deep on a 6 inch concrete base.

The total cost was.....\$33,773.60.

And was finished and accepted by the State on September 8, 1925.

ROUTE 7 - Section 3 - Andersons Corner to Colts Neck, a distance of 3.793 miles, was paved with concrete 20 feet wide by 8 inches deep. This contract was let on April 29, 1924. The work was completed on December 29, 1924 and accepted by the State on January 6, 1925, and paid for including one bridge in the amount of \$190,295.09. Section 4 of the same road from Colts Neck to Jerseyville, a distance of 3.333 miles was paved with concrete. The work was completed on August 18, 1925, and accepted on that date by the Commission.

The total cost was.....\$146,151.54

Section 2.



ROUTE 8 - Reeves Bridge at Mile Post - 14.4 having a double span of 75 feet was finished and paid for on September 29, 1925. The total cost was.....\$85,019.35.

It was a two span increased girder structure. At mile post 7.0, grade crossing approaches were constructed for a distance of 0.391 miles. The contract price paid for the finished job was.....\$105,696.64.

ROUTE 9 - South Avenue, Plainfield, a length of 1.42 miles was paved with sheet asphalt on a concrete base. The cost of the entire job was.....\$162,604.50  
The State's portion was paid on December 12, 1925. The agreed amount of it was.....\$ 67,500.00

Section 4, the Dunellen trolley track portion 0.479 miles was finished by the Company with recut granite block and the State paid for the work, the sum of.....\$ 24,564.02  
This payment was made on December 22, 1925.

ROUTE 11 - Section 8 - The Kingsland Road, Nutley, 0.723 miles was paved with concrete 30 feet wide by 8 inches deep. The State's share of the cost of this improvement was..\$53,321.02.  
The amount was paid August 18, 1925.

Section 10 of the same road designated as Washington Avenue and having a length of 0.25 miles was paved with sheet asphalt on a concrete base for a width of 60 feet. The cost of this work was.....\$ 57,679.99.

Section 9 of the same route designated as Washington Avenue, Belleville, and having a length of 1.80 miles was paved with asphalt on a concrete base, plus granite blocks on concrete in the trolley track area. The work was done in conjunction

with the Town of Belleville and the Public Service Corporation, the total cost of the job was.....\$446,663.44  
divided as follows:

To the Town of Belleville.....	\$178,806.56
" " County of Essex.....	418.26
" " Public Service Corporation.....	109,933.00
" " " " " extra work.....	6,000.00
" " State.....	<u>151,505.62</u>
Total.....	\$446,663.44

The payment for these several sections was divided as follows:

The State paid the sum of.....\$336,730.44.  
and rendered a bill to

Town of Belleville.....	\$178,806.56
To the County of Essex.....	418.26
" " Public Service Railway Corp...	6,000.00
plus its own obligation of.....	<u>151,505.62</u>

Making a total of.....\$336,730.44

For the three first items, the State was reimbursed. For the track paving, a three year agreement was made. The \$336,730.44 was paid by the State on August 18, 1925.

ROUTE 12 - Section 6 - The Port Colden-Stephensburg Road, 4.85 miles, long was paved with concrete 20 feet wide by 8 inches deep. In addition to the paving work over 3,000 feet of the old road was abandoned thereby greatly improving its alignment. In addition to the paving, nine new bridges were built. A number of the smaller ones were included in the road contract. The total cost of paving job was...\$332,067.45, while the larger were built separately at a cost...\$ 49,651.55

ROUTE 13 - Finished.



ROUTE 14, Section 10, Seaville to Petersburg, a distance of 3.302 miles was improved with 20 feet of concrete, 8 inches deep and finished with gravel shoulders. The work on this section was started on August 26, 1924, and finished on December 23, 1925 and accepted on December 27, 1925. The cost including the grading of the new section where the road was straightened was.....\$142,597.34.

Section 11, Petersburg-Tuckahoe, a distance of 3.049 miles, was finished and accepted at the same date; namely, December 27, 1925. The reason for this was that the same contractor was the low bidder on both jobs, and worked them as one. The cost was.....\$182,176.40.

ROUTE 15, Section 5 - Rio Grande to Green Creek, a distance of 3.462 miles, was paved with concrete 20 feet wide by 8 inches deep. The work was started on April 7, 1925, and finished November 2, 1925. The total cost was...\$140,725.75. The contractor over ran his time limit by one-half a day.

ROUTE 15, Section 7 - The Menantico Creek, Mauricetown Road, 4.109 miles long was paved with concrete 20 feet wide by 8 inches deep between these points. There was little expense in this construction beyond that of laying the pavement, this was.....\$178,729.31. The road was accepted by the Commission on October 6, 1925. A bridge was built over Menantico Creek of encased I beam construction, plus a draw span as the creek is navigable. Its length was 445 feet and its cost.....\$85,790.00. The bridge was finished and accepted June 23, 1925. An-

other bridge was built over West Creek and Mummytown Branch. This was of encased I beams and cost.....\$39,815.78.

ROUTE 18 - Section 1, is all laid in the Borough of Alpine, The work was started on May 21, 1925, Its length is 3.371 miles and lies entirely in the Borough of Alpine.

The work was finished and accepted on December 15, 1925, and the final cost was.....\$307,462.75.

The slight increase over the contract price was due to removing and resetting fences.

ROUTE 20 - Section 1 - The Glassboro-Clayton Road 4.508 miles long was paved 20 feet wide and 8 inches deep with concrete. The work was started in October 1924. The improvement extends through a built up section. In Clayton, the Borough decided to pay for the widening of the concrete to the curb line and assumed the cost for the same. The cost to the State for this improvement was.....\$227,790.50. It was accepted by the State July 9, 1925.

1906 - No separate work was let by the State on Route No. 1, but it paid one-third of the cost of the connecting link in the City of New Brunswick. This payment amounted to.....\$ 66,413.12. was paid on December 7, 1926.

ROUTE 2 - Section 9 - Pensauken Creek, Union School House, a distance of 1.637 miles, was paved with concrete 20 feet wide by 8 inches deep at a total cost of.....\$107,362.27. The section was widened to 40 feet at the intersections with other streets. The job was finished and accepted by the State on October 26, 1926.

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ROUTE 4 , Section 31, Tuckerton-New Gretna - 6.401 miles long was paved with concrete 20 feet wide by 8 inches deep. This was a 1925 job, but was not finished in time to be paid for in 1925 though it was accepted on December 22, 1925. The payment was not made until January 1926. The cost was.....\$305,857.22.

SECTION 30, from Manahawkin-Tuckerton, a distance of 7.35 miles was paved with concrete 20 feet wide by 8 inches deep. This is another 1925 job that was late in completion; as a consequence, it was not accepted until January 5, 1926. The total cost of this work was.....\$349,905.20.

A bridge over Westecunk Creek in West Creek was built as a concrete slab at a cost of.....\$ 16,311.58, and was accepted by the state on March 16, 1926.

ROUTE 4 - Sections No. 13A and 20B, designated as Manasquan River Bridge and Manasquan Grade Crossing Elimination were let on October 6, 1925, the contracts were not executed on the part of the Commission and delivered to the Contractors until October 31, 1925. While the sections were short as follows:

13A.....0.557 miles  
and 20B.....0.183 "

A total of 0.740 miles

As a consequence, the contractors had only thirty days in which to do all of the work which was not enough. This was recognized by the Commission, and as a result, an extension of time was granted. The work was finished on March 13, and formally accepted on March 30, 1926. The Total cost

was.....\$44,144.03.

#### SECTION 28A

Waretown Forked River Cut off, 2.847 miles  
was concreted 20 feet wide by 8 inches deep, and the old  
gravel was used to complete the shoulders. In addition  
to the road work, a box culvert was constructed at Mile  
Post 34.8. The whole job of pavement and culvert were  
accepted by the State on March 16, 1926, the cost was  
.....\$172,350.11.

SECTION 33 - Perth Amboy Bridge Cut Off, 1.296 miles long  
was improved with concrete 29 feet wide by 8 inches deep,  
and the graded width is 50 feet. Owing to the terms of the  
road act, the City of Perth Amboy has sole responsibility  
for the pavement in the City limits, but owing to the  
location of this job, it is really a part of the State  
Highway System. The procedure followed, therefore, was  
for the City of Perth Amboy to advertise and let the  
contract and for the State to pay the bill. This was done,  
and the contract price was paid by the State on May 27, 1926.  
The amount, including bridges was.....\$160,495.78  
A small bridge of 8 foot span was built over Spa Spring  
Creek, at a cost of.....\$ 7,644.75.  
This was paid for on May 27, 1926.

SECTION 25, South Amboy-Cliffwood, a distance of 3.411 miles  
was paved with concrete 20 feet wide by 9 inches deep. This  
job was started in October 1925 and finished on August 7,  
1926, accepted by the State on September 14, 1926.  
The total cost was.....\$288,985.65

SECTION 32 of the same road between Rahway and Perth Amboy,



a distance of 4.01 miles was paved with concrete. Bids for this work were received on July 6, 1925. The pavement was of concrete of varying widths; viz, 29 feet, 34.5 feet, and 40 feet by 9 inches deep, the extra width being paid for by the municipalities.

The total cost of the pavement was.....\$443,130.63

Two bridges were included in the job, cost..... 12,650.15

Making the cost to the State.....\$455,780.78

The extra cost paid by the municipality.....\$ 28,950.00

SECTION 33 - of the same road, known as the Perth Amboy Bridge Cut-off, 1.296 miles long was paved with concrete by the City of Perth Amboy under an agreement with the State, which agreement was approved by the Commission on July 14, 1925. The pavement is of concrete 29 feet wide. The work was finished and its acceptance by the City was approved by the Commission on June 22, 1926 and paid in the amount of .....\$168,140.53

This amount included one bridge that cost..... 7,644.75

Cooper's Bridge over the Raritan River consisting of 12 spans was finished and accepted on July 8, 1926.

Its total cost was.....\$405,977.28

SECTION 34, of Route 4, Known as the Keyport Cut off, 1.108 miles long was paved with concrete 29 and 40 feet wide by 9 inches deep. The work was started November 12, 1925. The contract for the railroad bridge was awarded April 27, 1926. Due to unavoidable delays, the date of completion was extended.

ROUTE 7 - Section 8, Jerseyville-Freehold Road, 3.836 miles long was paved with concrete 20 feet wide by 8 inches deep

and finished with gravel shoulders, 5 feet wide on each side. This contract was awarded on July 28, 1925, but was not finished until May 25, 1926, and then on the insistence of the State. Its cost was.....\$213,095.05.

The work was accepted by the State May 25, 1926.

ROUTE 8 - Section 6 was improved with concrete 20 feet wide by 8 inches deep and widened to 30 feet at intersections and drainage points. The cost was paid on February 4, 1926.

The total amount of the contract was.....\$266,696.23.

There was relation of 125% on unfinished work due to freezing weather, this amount sustained was.....\$ 2,712.13

Most of the halted work was on the property of the City of Newark. A bridge was built over the Pequannock River.

This was finished and accepted on May 18, 1926.

Its cost was.....\$ 22,409.30.

ROUTE 9 - Section 15A, Cranford, a section 0.33 miles long was paved with concrete and of widths varying from 40 feet to 74 feet to be laid in widths of from two to four strips, depending on the overall distances between curbs. The bids for this work were received on July 20, 1925, and the contract was awarded to the low bidder on July 28, 1925.

The auxiliary work of removing buildings, laying sewers, and other subsurface structures was completed in August, and the contractor started his grading on August 17, 1925.

The work with the exception of setting curb was finished and accepted on February 4, 1926, and the final work was completed and accepted on May 18, 1926.

The total cost was.....\$ 54,785.26.



ROUTE 9 - Section 16, The Bloomsbury Cut Off, 0.80 miles long. This is a new alignment around Bloomsbury instead of through the village. The new line was adopted by the Commission on April 21, 1926. The bids for the construction of the work were received on June 8, 1925, and the contract was awarded on June 8, 1925. Work was started on June 18, 1925 and including the bridge over the Musconetcong river was completed on June 5, 1926 and was accepted by the Commission on June 24, 1926. The total cost including the bridge was.....\$61,105.10. The pavement was finished with cinders to allow for final settlement.

ON SECTION 17 - Five small bridges were built and paid for. The total cost of these was.....\$25,784.90. These were accepted by the State on May 25, 1926. Two bridges were built at Clinton. One over the South Branch of the Maritan River in Clinton, and the other .7 of a mile west over a small brook. The cost of these two which were built by the same firm was.....\$20,194.44.

These were accepted by the State on September 26, 1926.

SECTION 17, from Lebanon to White House, a distance of 4.628 miles was paved with concrete 20 feet wide by 8 inches deep and graded to a width of 30 feet. Work was started October 5, 1925 and finished on October 28, 1926. It was accepted by the State on November 1, 1926. This job begins at the bridge over the South Branch of the Rockaway River, Whitehouse, and ends at Myrtle Avenue in Lebanon. The cost was.....\$241,826.25.

SECTION 18 - The Clinton Cut off was awarded to the De-

partment of Institutions and agencies on September 14, 1926, and a contract for the job was executed on October 2, 1926. The work was accepted by the State on the grading of the road only on December 12, 1926. The length of this section was 1.26 miles. Its cost.....\$ 51,051.19

Two bridges were included in this job. These were passed at the same time by the Commission. Their cost was...\$90,418.42.

ROUTE 15 - A small bridge was built over Muskee Creek at Bricksboro. Its span was 20 feet, the top a concrete slab. Its cost was.....\$23,760.10.

It was accepted by the State May 4, 1926.

ROUTE 16 - Section 5A, Somerville to Royce Valley, a distance of 2.368 miles was paved with concrete 20 feet wide by 8 inches deep. The road having been previously graded,

the principal cost was for the pavement which was...\$97,597.68

This was accepted by the State on February 23, 1926. Another bridge was built on this route over Cousers Creek.

This was a reinforced concrete slab structure on concrete abutments and cost.....\$21,013.00.

It was accepted by the State on May 25, 1926.

ROUTE 20 - Section 4, High Street in the City of Millville, having a total length of 1.947 miles was paved with concrete from the end of the brick pavement at Depot Street thence northerly to the City line. It was paved 30 feet wide between Depot Street and the railroad siding and 20 feet wide through the unbuiltup section northerly. The pavement is of concrete 8 inches deep.

The total cost was.....\$104,135.73.

This work was accepted by the State on January 19, 1926.



SECTION 2, Through the Borough of Glassboro for a distance of 1.099 miles was improved by paving the roadway with concrete to a width of 40 feet and a depth of 8 inches. 22 feet of this was paid for by the State, and the remainder was laid at the expense of the Borough. A contract for this work was awarded in June 1925. The work was finished and accepted December 22, 1925. The payment was made in January 1926, the amount was..\$106,529.30. The widening of the road for 49.5 feet to 66 feet was made by the Borough at its own expense.

SECTION 5 from Millville to Vineland, a distance of 4.678 miles, that is from the northerly City line of Millville to Oak Road Vineland was paved with concrete 20 feet wide by 8 inches deep. The contract was awarded on June 15, 1926. Work started on July 2, 1926 and finished and accepted December 7, 1926. The cost was.....\$205,841.14

BRIDGE APPROACHES to the Delaware Bridge at Camden were built as extensions of Route 3 - This section is 1.888 miles long. The work consisted of grading only, filling the Old Cooper River bed, and preparing the section for paving next year. The cost was.....\$389,566.66. This was accepted by the State on June 24, 1926. To this, the same contractor added the construction of the Chandlers Run Entrance and Connecting road bridges. The cost of the finished construction was.....\$74,673.32 for the T beams and concrete construction and paid on June 24, 1926. The grading of entrance road Section 2 of the Camden Extension having a total length of 3.701 miles was started but not finished.

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ROUTE , Extension 14, Maynes Avenue, Jersey City, a distance of 1.02 miles, consisted of a fill across the Newark Meadows along side of the Pennsylvania Railroad. It started at the center of the pier footing and extended to a point near South Street. This job consisted mainly in making a fill to support future structures on this line. The cost of this work was.....\$209,665.00. and was accepted by the State on November 22, 1927.



## Route 1

A storm drain was built in Cranbury. It has a length of 2,688'. This work was necessary to protect the paving. Its total cost was \$30,731.35, and was paid on July 12, 1927.

Re-surfacing the Jersey City-Newark section was done with 2" of bituminous concrete. The length of this work was 1.841 miles, and this work lies between the park in Jersey City and the outskirts of the City of Newark. The constant and heavy traffic made this work necessary. Its total cost was \$232,364.49 and was finished and accepted on July 12, 1927.

Sections 1-B and 2-A, the Metuchen-Rahway widening, a length of 5.391 miles, was paved with bituminous macadam after grading. The cost of this was as follows:

Grading	\$ 47,544.15
Shoulders and paving	89,746.00
Curb	2,753.30
Drainage & drainage structures	28,524.35
Guard Rail & Fences	<u>10,856.95</u>
	\$179,424.75

There were three small bridges included in this contract, the total cost of which was \$7,535.94. The work was accepted by the State on September 20, 1927.

Section 2, Extension, Jersey City, 0.309 was paved with granite blocks and asphalt. The total cost was \$1,255,285.26 and was accepted by the State August 30, 1927.

## Route 16

Section 9, Woods Tavern-Harlingen, a distance of 3.795 miles, was graded 40' wide and paved 20' wide by 9" deep with concrete. The work was started on March 23, 1927 and finished on December 15, 1927. It was accepted by the State on December 28, 1927. The cost of the pavement was \$179,734.45. To that we add three small bridges at a cost of \$46,051.64. This section closes the gap in the concrete paving between Harlingen and Woods Tavern.

The Entrance road, Camden Extension, Cooper River Draw-Bridge, with a length of 122' and giving 100' clear span was finished and accepted on November 22, 1927. Its cost was \$484,451.03.

On Extension, Section 1, Contract #2, the 12-Street Viaduct in Jersey City was accepted on November 22, 1927. Its final cost was \$1,998,938.04.

## Route 2

The only expenditure on this route was for a bridge over Pensanken Creek between the Counties of Camden and Burlington. This was a single arch span of 70' built of reinforced concrete. The total cost of this structure was \$89,832.92. It was accepted by the State on July 12, 1927.

## Route 3

Section 13A, the widening of the White Horse Pike for a distance of 9.633 miles between Absecon and Egg Harbor was started on May 24, 1926 and finished on February 8, 1927. The total cost was \$313,923.93.

Section 12-A, Egg Harbor to Hammonton, a distance of 12.734 miles was widened to give a total width of 40' between curbs. The work was started in July 1926 after urgent



notice from the Commission, but very little was done on this section until September. The job was left in poor condition until 1927, but was finally completed and accepted by the State on April 26, 1927. The amount of the final cost price was \$317,873.62.

Section 11-A of this same route between Berlin and Hammonton, a distance of 10.753 miles was widened to the standard 40' under a contract awarded on June 22, 1926. The work was finished on April 5, 1927. The delay in finishing this job was due to winter weather. The total cost was \$283,685.19.

#### Route 4

Section 34, on this a bridge was built over Lupatcong Creek just west of Keyport. This consisted of 2 I beams encased in cement. The work was finished and accepted April 12, 1927. The cost was \$31,408.34.

Section 4, Section 7B, consisted of the continuation of a job that has lasted for 30 years, the widening and raising of the fill over the Mullica River meadows; a length of 2.488 miles. The deep muck made it almost impossible to make a permanent job. The first improvement consisted of oyster shells laid on a mat of cedar trees laid transversely over the mud bed. This answered for a time until the traffic increased. Then a bed of gravel was spread, that lasted till the spring tides, when it sunk to the meadow level in several spots. This was a further attempt to bring this road above hightide and furnish a road that was usable at all seasons of the year. This attempt was finished and accepted on May 31, 1927 at a total cost of \$45,734.98.

Section 3-B, at South Amboy was also widened as the traffic grew so fast that it was necessary. The cost of this was \$56,986.40. The work was accepted on July 26, 1927.

An additional roadway was provided by taking over the abandoned trolley under-pass, thus providing two lanes in each direction, separated by a pier between the lanes.

Section 34-A of Route 4 was a new section laid out by the State Highway Commission on July 24, 1926. It was further resolved by the Commission that upon the completion of the construction of the relocated highway, the old or original portions of what was then Route 4 should be abandoned. The work was started on August 9, 1926 and completed and accepted on October 18, 1927. A washout caused by a heavy storm carried away a large portion of the curb. This was repaired, the curb replaced and the job was finally accepted and paid for in a total of \$301,005.79 on January 26, 1928.

#### Route 5

Section 16, Dover Cut-off, a length of 1.652 miles was paved with concrete from the Rockaway-Dover Road at a point 2,000' northeast of Blackwell Street, through McFarlan Street to a point 130' west of Pequannock Street, the end of the straight grade at the beginning of the overhead grade across the D. L. and W. R.R. This new line cuts out Blackwell Street in the town of Dover which was later released to the County of Morris. The cost of the work was \$141,621.71.

Section 17 of this route from Belvidere to Buttzville, a distance of 2.738 miles was paved with concrete 20'



wide by 8" deep. The work was started on May 17, 1926 and was finished on June 22, 1927 and accepted by the State on July 12, 1927. The total cost of the work was \$158,273.70.

#### Route 6

The only work paid for on this route was for a bridge over Salem Creek in the County Seat. The bridge has a span of 51' and cost \$28,168.38. The structure was a steel girder encased in concrete and was accepted December 6, 1927.

#### Route 7

Section 5-A and 6-A from Freehold to Manalapan, a distance of 5.465 miles was paved with concrete 20' wide by 8" deep. The road had been previously grade, hence the concrete pavement formed the principal item of cost. The work was started on April 20, 1927 and finished and accepted by the Commission on September 13, 1927. The total cost of the work was \$222,257.35.

Five small culverts were built at a total cost of \$35,836.54. These were accepted April 26, 1927.

Six small bridges or culverts were finished and accepted on April 5, 1927. These cost \$34,367.99.

Sections 6 and 7, from Hightstown to Freehold were graded but not paved. The cost of this work was, which was 12.05 miles, long, was accepted on June 28, 1927, was \$96,411.36.

Section 7A, the Hightstown-Manalapan Road, a length of 6.841 miles was paved with concrete 20' wide by 8" deep. The work was started on May 10, 1927 and finished and accepted on November 7, 1927. The cost of the finished work was \$267,693.51.

Section 8, the Lakewood-Aldrich Road, 4.592 miles long was paved with concrete 20' wide by 8" deep and one bridge of 45' span was constructed by the road contractor. The cost of the paving was \$315,253.35. The cost of the bridge was \$30,445.50.

The pavement through Lakewood was widened to 53' at the cost of the Township.

#### Route 8

Two short slab bridges were built over Wallkill Creek and Beaver Brook which were accepted by the Commission on June 28, 1927. Their cost was \$9,973.41.

Section 8, the Sussex-Hamburg Section, 4.813 miles long, was paved with concrete 20' wide by 8" deep. Section 8, the Sussex-Hamburg, runs through the Borough of Sussex to and through the Borough of Hamburg for a distance of 4.813 miles was paved with concrete 20' wide by 8" deep. The grading on this section was quite heavy and included much rock cutting. The contract was awarded on July 13, 1926. The work was pushed to cold weather when paving was stopped but the heavy rock blasting was carried on. The work was finally completed and accepted by the State on October 18, 1927. The cost of the work was \$320,599.34.

#### Route 9

Section 16A, Bloomsbury-West Portal, a distance of 2.999 miles was paved with concrete 20' wide by 8" deep. Work was started on July 19, 1926 though the contract was not approved until July 29, 1926. The work was finished and accepted on July 12, 1927. There was one bridge included in the job. The cost of this paving was \$175,795.55. The cost of the bridge was \$5,721.00.



Section 17A, the Lebanon-Clinton Cut-off, a distance of 2.339 miles was paved with concrete 20' wide by 8" deep, was improved by the State Department of Institutions, and Agencies, with its own forces. The work started in October, but was confined to grading the shoulders and taking care of the drainage. The concreting was finished on September 1, 1927 but was not accepted by the State until December 13, 1927. The cost of this work was \$167,269.65.

Section 18A, the Clinton Cut-off, 1.26 miles long was built by the inmates of the Institutions and Agencies Department, and conjunction with the adjoining job of 17A. The two jobs were worked jointly, viz., if one was too wet, the men were shifted to the other. These two jobs were accepted at the same time by the Commission namely December 13, 1927. The cost of this section was \$71,806.95.

Tree planting on Route 9, 12 and 20 were paid for on December 1, 1927. The total cost was \$1,957.80.

Section 19, Perryville-Clinton section, 3.051 miles long, was paved with concrete 20' wide by 8" deep. This job was started on May 25; the small bridges were sublet. Later, on October 22, 1926, the Commission declared the contract abandoned. The Bonding Company then took the work over and finally completed it on September 13, 1927. The cost of the paving was \$225,672.42. The cost of the three small bridges was \$12,012.20.

Route 12

Section 9, Fairfield-Little Falls in the Counties of Essex and Passaic, having a length of 2.898 miles, was

paved with concrete 20 and 30' wide by 8" deep. This work was started on December 15, 1926 but the lateness of the season prevented the doing anything except some grading and drainage work. Owing to the many severe storms, that prevailed while the contractor was preparing the sub-grade the contract over ran the fixed time of completion by over two months. The cost of the road paving amounting to \$201,490.82. The cost of the two bridges \$19,748.32. The road was accepted on November 1, 1927.

In addition to these, a three-span half-through plate girder bridge, 285' long, was built over the Passaic River at a total cost of \$116,927.27. This was accepted by the State on October 10, 1927. The cost of this was \$116,927.27.

Section 8, Pine Brook-Fairfield Road, 3.198 miles long, was built of concrete 20' wide by 8" deep. The work on this section was started on September 20, 1926 and was accepted by the State on September 20, 1927. Owing to the lateness of the season at which work was started, the laying of pavement was not started until the Spring of 1927. In spite of rainy weather the work was pushed and finally accepted by the State. Its cost was \$183,740.12.

The Camden Extension Division, Section #1 and Federal Street, Elevation, were all taken by one contractor. The first at a cost of \$261,596.01. The second, the bridge, at a cost of \$279,791.14. A bridge was inclu-



ded in the first section which has a total length of 0.88 miles.

The second section, the Federal Street Elevation was but 895' long and consisted of an encased plate girder, a concrete viaduct and earth fill.

On the Entrance road, Camden Extension, a draw bridge having a length of 122' and a clear span of 100'. The cost of this as given above is \$279,791.14. The State's portion of these two items is \$390,517.41. The City's portion of these two items is \$150,889.74.

This is a section of the State Highway Approach to the Delaware River Bridge, connecting with Linden and Penn Streets to and from the Bridge Plaza and includes the separation of grades by the elevation of Federal Street in the City of Camden. This section was opened between 11th Street and 12th Street on July 4, 1926 for the accommodation of bridge traffic and from 12th Street to Starr Avenue on January 1, 1927. The remainder of the section delayed by the construction of the draw-bridge over Cooper River was completed and opened on July 1, 1927. The remainder of the section, delayed by the construction of the drawbridge over the Cooper River was completed and opened on July 1, 1927. The total final cost of the road was \$261,596.01. To this must be added the cost of the bridge \$279,791.14. Making a total of \$541,387.15. The State's share of this is \$390,517.41.

Entrance road, Sections 1A, 2A, 3A, connecting road sections 3A and 4, a total length of 2.901 miles.

The width of the pavement varies, the concrete from 2.8 to 78', the gravel from 36 to 78' and having a uniform depth of 10". The work on this section was started on November 2, 1926 and was completed on October 28, 1927 and accepted by the Commission on November 22, 1927. The cost was \$321,478.82. This contract with the entrance road Section #1 provides a new highway joining the White Horse Pike with the Delaware Bridge, by passing the traffic, between Philadelphia and southern New Jersey, around the City of Camden. This road was graded in 1925 and 1926 and is built over the marshes of the Cooper River Valley. Where the fills are still settling, a temporary gravel surface has been placed.

#### Route 14

Section 12 and 13. These sections are in Corbin City and the other in Estellville having a total length of 1.191 miles. These two sections, built by the same contractor, these are parts of the road leading from Egg Harbor to Cape May. They cover the relocation of Route 14, east of Corbin City and north of Tuckahoe and the widening of the present causeway plus two small bridges at Estellville. The work was started on November 4, 1926 and was finished May 28, 1927. It was accepted on May 31, 1927. The pavement was of gravel 40' wide by 8" deep. Its cost was \$46,163.47. That of the two bridges was \$8,448.59. Total cost of the improvement \$54,612.06.

The Tuckahoe River Bridge is an extension of the above job. It consists of a 30' lift span and two approach spans of 51.5' and 56.5' or a total length of 138'. The



roadway has a width of 30'. The approaches are of gravel. The total length of the job is 810'. The total cost paid by the State was \$130,851.43. This was accepted by the State on March 15, 1927.

A bridge was built over South River 1.5 miles south of Mays Landing. This was a single span of 42' of concrete. The work was accepted by the State on July 26, 1927. The total cost was \$20,245.68.

Section 14, The Egg Harbor-Mays Landing Road, 6.75 miles long was paved with concrete 20' wide by 8" deep and finished with gravel shoulders 10' and 15' wide. Work was started on August 1, 1926 and was completed on June 8, 1927 and was accepted by the Commission on July 26, 1927. The cost was \$292,167.66

Section 15 extends the concreting from Estellville through the City of Estell Manor and the Township of Weymouth to a point in the Hamilton Township line a distance of 3.69 miles. It was paved with concrete 20' wide by 8" deep. This project is part of the road from Egg Harbor to Cape May and completes concrete pavement between Estelville and Mays Landing. The work was started on November 29, 1926 and was completed May 18, 1927. Its cost was \$169,260.53. It was accepted by the State on May 31, 1927.

#### Route 15

Section 9, Mauricetown Road to Delmont, a distance of 6.382 miles was paved with concrete 20' wide by 8" deep and finished with gravel shoulders. The contract was awarded on May 17, 1927 and work started on June 13,

1927. It was finished and accepted on December 26, 1927. The total cost was \$245,937.04. This is a part of the road from Millville to Cape May and continues the concreting thro' Dumont.

#### Route 16

Section 5B, Bridge Street, Somerville, a distance of 0.261 miles was paved with concrete 30 and 36' wide by 8" deep, in other words, from curb to curb. The work started on October 18, 1926. It was expected to complete the work during 1926 but winter weather shut down the first week in December, as a result, one half of the paving had to be completed in 1927. The Borough of Somerville shared a part of the cost of this extra width. In order to construct a 36' pavement, it was necessary to secure additional right of way on both sides of the street for the entire length of this section. The State secured this for the first 300' and the Central Railroad, for the remainder of the distance. The Railroad Company was also responsible for property damages, due to change of grade from Franklin Street to Second Street, due to change of grade of the street in the construction of an under-pass thereby eliminating a dangerous grade crossing. The State's share of the cost was \$31,944.65. The work was accepted by the State on July 12, 1917.

#### Route 17

Job #10, Old Route 17, was re-surfaced with asphalt for a distance of 0.561 miles. The re-surfacing was 20' wide by 3" deep. The cost was \$14,434.84.

And another short section, 0.318 miles long, was done by the same firm, at a cost of \$3,076.85.



Section 1, Rutherford-Hackensack, 2.954 miles long, was graded at a cost of \$139,042.10 and the work was accepted September 20, 1927.

Route 18-S      The Malaga-Downtown Road, 7.134 miles long, on Section 18, was paved with concrete 20' wide by 8" deep and finished on the shoulders with 8" of gravel, the work was started on May 2, 1927 and completed on September 28, 1927 and accepted by the State on October 4, 1927. This section includes the relocation near Malaga of a portion of Route 20, leading from Westville to Millville. The entire section is paved with concrete except a short section, that is paved with gravel to await settlement. The work was accepted by the State on October 4, 1927. The cost of finished section was \$292,027.43. The bridges were included in the contract.

18-N      Section 2, Alpine to the New York State Line, a distance of 1.785 miles was paved with concrete to the following widths, viz., 20', 30' and 40' and to a uniform depth of 8". The work was started on April 30, 1926 and accepted by the State on June 20, 1927. Its cost was \$244,519.65. There was but little work left to be done from last year. Although two heavy fills caused some worry, it was finally decided to pave them. This action was fully justified, as there has been no settlement at all. Two small bridges were built on the job at a total cost of \$6,418.00. These were accepted and paid for.

Section 6, Lemoine Avenue Extension, 0.396 miles long, was paved with concrete 36' wide by 8" deep. The

work was started July 7, 1927 and was completed on December 10, 1927 and accepted by the State on December 28, 1927. Its final cost was \$67,208.90.

#### Route 20

Section 6, Franklinville-Malaga Road, a distance of 3.197 miles, was paved with concrete 40' wide through the town of Franklin and 20' wide over the remainder of the improvement. 2200' through the town of Franklin was paved for the extra width of 40'. The concrete is 8" deep. The extra width being paid by the Township. The work was started on July 13, 1926 and was finished and accepted on April 12, 1927. The total cost to the State was \$158,614.51. Two bridges were built on this section, cost \$28,463.14, one over Scotland River and Little Ease Run. These were accepted on January 25, 1927.

Section 7, Malaga-Vineland Road, a distance of 4.773 miles, was paved with concrete 20' wide by 8" deep. The work was started on March 29, 1927 and was finished and accepted on September 13, 1927. Its cost was \$196,922.50. Two bridges were included in the general contract, viz., one over a branch of the Maurice River \$2,365.40, the other over Blackwater Creek, \$6,162.73.

Tree planting on Routes 12 and 20 cost \$957.80, and was paid on December 1, 1927.

At the beginning of the year 1927, the State Highway System consisted of 21 Routes and connecting links having a total length of 893.736 miles. Chapter 319, Laws of 1927, established 42 Routes and 11 Spur Routes about 1819 miles,



including practically the entire previous State Highway mileage. There has been taken over during the year, 77.306 miles bringing the total mileage taken over as of December 31, 1927 to 971.012 miles.

The following is a statement of the 1927 expenditures:

Construction of Roads		\$10,466,951.28
Construction of Bridges		4,357,183.36
Disbursement to Counties, State Highways		
Construction of Roads		16,000.00
Interest		460,207.75
Tree Planting		2,215.55
Purchase of Right of Way Land		1,396,622.67
Condemnation and Appraisal		102,874.63
Maintenance and Reconstruction of County and Township Roads (Motor Vehicle Fund)		4,569,361.24
Construction of County Roads (State Aid)		<u>39,750.00</u>
		\$21,411,166.48
Engineering, Inspection and Testing		
Construction Division	\$1,123,040.94	
Fed., County & Townships.	115,038.37	
Laboratory	<u>149,389.22</u>	1,387,466.53
Maintenance of State Highway Road and Bridge		1,759,825.05
Administration		<u>400,990.20</u>
		\$24,959,450.86

The addition of more than 153 miles of new pavement in one year is a record for the State. This figure is made

up of 76.338 miles of pavement completed of the 135.714 miles placed under contract in 1927 plus 77.321 miles included in the 1926 contracts. In contracts completed during the year, amounting to \$12,359,520.16, the final cost of the work was \$12,321,050.02, an increase of total contract amount of only \$261,460.46 or 2.1 per cent of the contract amount.

Among the notable achievements of the year was the completion of four contracts aggregating in value \$4,880,888.30 on Route 1 Extension, Jersey City, Section 1 and the upper roadways of Section 2 were opened for traffic several months prior to the opening of the Holland Tunnels.

There are, under construction at the present time on Route 1 Extension work four sections for which the contract cost is \$6,766,386.80. The total spent for bridges included in roadway contracts was \$1,189,059.35. Grade Crossing Eliminations finished during the year were C.R.R. of N. J. at Elm, State's share \$23,817.79, Shark River Station, State's Share \$1,114.37, Overbrook Terrace, Under-pass, State's Share \$63,533.06.



At the beginning of 1928, the State Highway System was built up Routes and Connecting Links having a total length of 971.012 miles.

There has been taken over during the year 205.137 miles and 5.22 miles abandoned, bringing the total mileage taken over as of December 31, 1928 to 1170.929 miles.

#### Route 1

M.P. 57.8, Bridge over Hackensack River, composed of 8 fixed spans of 149' in length and one draw span, 238' long. The total length is 1,430'. The work was started on July 6, 1925 and was completed March 17, 1928. The width of the roadway is 39' to this is added 2,10' sidewalks. The cost of this to the State was \$1,111,908.87. This job was accepted by the State on March 27, 1928.

Section 7-A, Mercerville-Hamilton Square Cut-off, 3.144 miles long, was paved to a width of 29' and grade 40' wide. The pavement was of concrete. The concrete was laid 8" deep. The work was started on September 10, 1927 and accepted by the State on July 17, 1928. The total cost was \$233,365.75. This job is over new alignment which parallels the old Route 1 on the south and eliminates dangerous traffic conditions in Mercerville and Hamilton Square. Through Hamilton Square district, due to the flat grades and clayey soil, \$53,650.00 was spent for drainage.

Section 3-A, the Robbinsville Cut-off, 0.87 miles long, consists mainly of the approaches to the overhead bridge across the tracks of the Camden & Amboy Railroad at

Robbinsville although the contract for its construction was awarded in December 1927 work was not started until March 14, 1928, because of the bridge construction operations which were done by another contractor. The job was finally finished and accepted on October 2, 1928. The final cost paid by the State was \$61,953.36.

13-A, Extension, Newark, a length of 0.34 miles on Stockton Street from Delancy Street to Wilson Avenue, was paved with concrete 39' wide by 8" deep and finished with a granite curb on each side. The protection around the base of the columns was also granite curb. The total cost was \$41,681.63, and was accepted by the State on September 25, 1928.

Station 11, Newark Extension, 1.54 miles long, from Lincoln Highway to West of Wilson Avenue, City of Newark, was awarded on March 13, 1928 and the contract therefore was awarded on March 19, 1928. The work to be done consisted of a granite block pavement laid on a concrete base plus the necessary drainage pipes and structures. The principal expenditure on this job was for the 40' granite block pavement in the City of Newark. This work was completed on October 30, 1928. Its cost was \$590,906.47. It was accepted by the State on October 30, 1928.

Extension Sections 11 and 12, Contract #4, 0.40 miles of granite block pavement was finished at a cost of \$942,693.09 and accepted on July 14, 1928 and extension 13A, Stockton Street from Delancy Street to Wilson Avenue at a cost of \$928,594.27.



Section 3, from the Lackawanna Railroad bridge to Larch Avenue, a distance of 0.195 miles, was paved with granite blocks at a total cost of \$50,929.54.

Route 3

Section 11-B, at Elm in Atlantic County, a length of 0.208 miles was paved with concrete 40' wide by 8" deep. This work was done by the Maintenance Division and was completed on August 14, 1928. The cost was \$39,652.63. This contract provides for a full width pavement under the Central Railroad of New Jersey bridge at Elm, the railroad company having re-built its bridge to accommodate the full width pavement, also to provide sidewalks on each side.

Route 4

Shark River bridge at Belmar, consisting of 3 fixed spans of 70', 5 fixed spans of 76' and a single leaf bascule 50'; width of roadway 40' plus one 6' sidewalk. The work was started on January 27, 1927 and finished on March 1, 1928. The total cost was \$390,876.16.

Section 16-A, Toms River Cut-off, 0.038 miles long, was paved 20' wide with concrete 8" deep and graded 40' and 46' wide over a new line east of the railroad, thus eliminating two dangerous grade crossings and several curves one of which was very sharp. About 1,500 feet of the roadway was built on a part of Toms River adjacent to the Central Railroad embankment by pumping sand out of the channel. It was necessary to adjust Huddy Park to take care of about 300' of the alignment on the Toms River end. The total cost was \$69,307.92. To this must be added two bridges, one over Toms River south branch, the other over Jake's Branch.

The first consisted of two plate girder spans of 30', 3" each and a width 40' for the roadway plus two sidewalks of 6' each. The second of two spans 16' each by 40' wide, of re-inforced concrete. The cost of bridge #1 was \$122,552.34. The cost of bridge #2 was \$13,589.02, Making a total cost of the bridges--\$136,141.36. The road and bridges were accepted on July 28, 1928.

The Nacote Creek bridge approach was paved with concrete by the Maintenance Department. This was a concrete slabbridge at Johnstown, .1 mile east of Port Republic. The cost was \$10,603.60. The length of the improvement was 0.172 miles.

The Outerbridge Plaza provides for the connection from Route 4 at Perth Amboy to the bridge across the Arthur Kill to Tottenville, Staten Island. The length of the section is 0.564 miles. It is paved 29' and 30' wide and graded from 30' to 40' wide. The pavement is of concrete 9" deep. The shoulders are of gravel 4" to 9" deep. Work was started on May 8, 1928 and finished on November 7, 1928. It was accepted by the State on November 27, 1928. The cost of the work was \$124,211.44.

#### Route 5

Section 20, Morristown to Convent Station, a distance of 1.095 miles, was paved with concrete wide be 8" deep. The contract was awarded on July 26, 1927 but work was not started until August 27, 1927. The date of completion was fixed as November 1, 1928. An extension on time was given to November 16, 1928. It finally accepted



on December 13, 1928. The final cost was \$88,762.76.

Section 19, Dover to Denville, a distance of 3.189 miles was graded 40' wide, was graded and drained only. Most of the rough grading on the first mile was completed in 1927. Between the Rockaway River and the bridge over the Morris & Essex Railroad tracks at Rockaway, only a small portion of the grading was done. Several houses on the right of way had not been removed or disposed of and work on the above mentioned bridge was not started until January 1928. Most of the remaining excavation on this section was required to make the 12' fill at this bridge and, as work on the bridge had not progressed far enough to allow the building of this embankment, the contractor had to stop grading on the first of February, as the trolley tracks between Rockaway and Denville had not been removed and the grading of this section could not be started until this work had been done by the Traction Company according to contract. In view of these facts, it was decided to release the contractor, which was done on February 2, 1928 and the amount calculated as due approved by the State viz. \$34,561.18. This was done on February 2, 1928.

Section 18, Butzville to Great Meadows, a length of 5.78 miles, was paved with concrete to a width of 20', 25', and 30' and a uniform depth of 8". The contract was awarded on April 26, 1927 and work started on May 9, 1927 and pushed until stopped by cold weather. The pavement was completed but due to winter, the job

was tied up until April 9, 1928 when the finishing was started and finished upon May 14, 1928. It was accepted on June 12, 1928. The final cost allowed was \$327,349.18. Included in the contract were three small bridges built by the road builder. Their cost was \$33,176.97. These were accepted by the State on June 12, 1928.

Sections 1C, 6A 4A, these comprise the abandoned trolley track areas in Morris Plains, Morris Township, Morristown, Madison and Chatham. This trolley area, about 18' wide, extends for a distance of 0.82 miles through the middle of Section 1-C, Speedwell Avenue, Morris Plains and Morris Township; 1.42 miles through Section 6A, Speedwell Avenue, Morristown; and Section 4A, Main Street Madison and Chatham. An 8" concrete pavement 11' wide was placed on both sides of Section 1-C in 1919. This was followed by similar work on Section 4A in 1921 and 6A in 1922. However, the pavement on Sections 4A and 6A consisted of a Warrenite surface on a 6" concrete foundation. Until 1927, the trolley area was maintained by the Morris County Traction Co., when it was abandoned by the Traction Company and its maintenance devolved on the State Highway Department. It was decided to place a permanent pavement on this area, during 1928, the State paying 60% the County of Morris 20% and each municipality 20% of the cost within its borders. A single line, 9" concrete, pavement was selected for Section 1C to match the existing concrete side pavement. A bituminous concrete surface on an 8" concrete foundation was selected for Sections 4A and 6A to match the existing Warrenite pavement. Excava-



tion was started on June 20, 1928 and was completed on October 2, 1928. It was accepted by the State on December 11, 1928. Its cost was \$220,396.22.

#### Route 6

Bridge over Big Timber Creek, at Westville was a bascule with encased girder approach. The draw span was 60' long and the approach spans were 63' each. The width of the roadway was 47' plus 2 sidewalks each 11.5' wide. The work was started on October 31, 1927 and was completed on November 8, 1928. The adjusted contract price was \$275,149.19.

Connecting Road Section 4-A, 5 and 6 and Rt. 6, Section 17, a distance of 3.934 miles, was graded only to a width of 40' to 80' feet. This project comprises the grading of the southerly portion of the Connecting Road and joins northerly end of Route 6, near Westville, with the completed sections of Entrance and Connecting Roads, at White Horse Pike, providing for traffic between points in South Jersey and the Delaware River bridge, also on the north with Trenton. The work of paving this section is now under contract. The work was accepted on December 11, 1928. The final approved cost was \$779,924.75.

Three bridges were built on this section namely over Main and South Branches of Newton Creek and Little Timber Creek. The cost was \$369,878.92. These were accepted by the State on December 11, 1928.

#### Route 7

Section 9, Aldrich Road, Adelphia, 5.095 miles long, was improved with concrete 20' wide by 8" deep.

As this road had been previously improved, the principal cost was for the concrete. The work was finished on November 10, 1927 but there was some trimming to be done as a result, it was not accepted by the State until December 6, 1927. However, it was not paid for until January 1928. Cost \$244,183.66.

Two bridges were included in this contract, one of 69' span of girders connected by floor beams and 932' span of steel beams encased in concrete. The cost of these two bridges was \$68,442.19.

The Shark River Grade Crossing Elimination, 0.284 miles long, was accepted by the State on August 30, 1928. The Shark River Grade Crossing, 0.284 miles long, was finished and accepted on August 30, 1927 but was not paid for until March 1928. The amount paid was \$52,737.08.

#### Route 8

Section 7, Beaver Lake-Stockholm, 3.851 miles long, work was awarded on August 24, 1926. It consists of a concrete pavement 20' wide by 8" deep and the grading of the roadway to a width of 30'. The straightening of the line through Stockholm removed two grade crossings and greatly improved the alignment. The cost of grading the new line amounted to fully one-half of the total contract. The cost was \$358,635.81 for the road grading and paving, to this must be added the cost of two bridges, one over the Pequannock River and the other two miles further on, over a small brook. The cost of these was \$44,163.09. The entire job was built by one contractor.

Section 8, Yellow Frame-Blairstown Road, 5.643 miles long, was graded 30' wide and paved 20', 25' and 30'



wide with concrete 8" deep. The work was started July 5, 1926 and finished May 15, 1928. This section is part of the highway between Newton and Blairstown. It begins at the cross-roads at Yellow Frame Church which is also the county line between Sussex and Warren Counties. From this point, the road runs through the villages of Marksboro and Paulina to Blairstown. The grading work on this section was done by Warren County in 1926 and is generally over new alignment. The pavement was completed in 1927 by the State under this contract. The work done this year was mainly shaping the shoulders and widening the fills and a retaining wall along the railroad near Blairstown was built. The total cost was approved by the State on June 15, 1927. The total cost was \$291,670.12.

Section 10-A, From Essex, Passaic County Line to the Passaic River Bridge, a distance of 0.530 miles. It was paved 40' wide by 8" deep with concrete. This is a portion of the old Newark and Pompton Turnpike, and has been constructed from the Essex-Passaic County Line to the Passaic River Bridge. This section of road was built with the purpose of relieving the congestion caused by heavy traffic on the rough and bituminous pavement previously laid at this point. An agreement was made between the Highway Commission and the Township of Little Falls on August 9, 1927, whereby the Township would bear the cost of all curbing, a 5.5' strip of pavement on each side of the road, and one-half of the cost of the storm sewer and incidental structures from Main Street to the Passaic River. The rest of the work was paid for by the State.

The work was started on May 25, 1928 and finished on June 29, 1928. The pavement was constructed in four 10' strips. The total final cost was \$82,074.78. The State's portion was \$59,719.54.

Section 9, Beaver Lake-Hamburg, a distance of 4.549 miles, was graded 30' wide and paved 20' and 30' wide with concrete 8" deep. The work was started on July 27, 1927 and was accepted on September 11, 1928. This section extends from a point 500' west of the New York Susquehanna and Western Railroad, at the top of Beaver Lake Mountain to the Underpass under the Lehigh and Hudson Railroad at Hamburg with the exception of 2,000' omitted for the Cut-off at Hardystonville. The principal feature of this section are the change of alignment necessary to obtain sight, distance and eliminate sharp turns and two railroad grade crossings in the borough of Franklin. From Station 0 to 84, 30' pavement and curbs were laid and 20' pavement from Station 84 to 166. From Station 166 to 174, 30' pavement and curbs and 20' wide to the end. The cost of this work was \$414,399.31. To this must be added the two small bridges, a mile apart. The cost of these was \$34,328.92. The whole work was accepted on September 11, 1928.

#### Route 9

Section 11-A, Dunellen Track Paving, a distance of 0.588 miles. This work consisted of paving a width of 18' with 4" granite blocks on a 5" concrete base. The work was started on September 10, 1928 and was completed on November 26, 1927 but was not accepted until January 3, 1928.



Its cost was \$33,912.55. The Public Service renewed and re-adjusted the ties and rails.

Route 14

Section 18, Mays Landing Relocation, a length of 1.456 miles, was paved with concrete to a width of 20' and 40' and a depth of 8". Work on this project was started on October 3, 1927. It was completed on September 23, 1928 and accepted on November 20, 1928. The total final cost was \$167,672.11. There was one bridge included in the road contract, the cost of which was \$68,806.40. This bridge has a clear span of 69.5' and a width of roadway of 40' plus 2 sidewalks each 6' wide. The total length of this project was 126.7'.

Route 15

Section 11, South Dennis-East Creek, a distance of 5.551 miles, was paved with concrete 20' wide by 8" deep and finished with gravel shoulders extending the paved width to 40'. Work started on December 19, 1927 and was finished on December 8, 1928 and accepted by the State on December 18, 1928. Its cost was \$263,419.89. This project, from South Dennest to West Creek is a part of the road, from Millville to Clermont, on Route 14 and includes a relocation at Dennisville to be graded and surfaced with gravel, and provides for concrete pavement from Dennisville to East Grove. There were 4 bridges included in this contract. The total cost of which was \$51,928.73.

Route 16

Section 10, the Harlingen-Bolmers Corner, 3.024 miles long, was graded 40' wide and paved 20' wide by 8" deep. Work was started on May 13, 1927 and was not finished until April 16, 1928; as a result, a penalty of one-half of 67.5 days at \$40.00 was deducted. A cattle pass

was eliminated. As a result the cost of the road contract was \$168,620.17.

A bridge at Station was built at a cost of \$20,368.62. This section improved the old alignment and grades and shortened .30 of a mile in its length.

Route 17-S

Section 2, Pedricktown Relocation, 1.961 miles long, was paved with gravel 30' wide by 8" deep. This work is located on the Crown Point Road leading from Westville to Penns Grove. The work consisted of grading and surfacing with gravel the section known as the Pedricktown Cut-off. The work was started on October 31, 1927 and completed May 1, 1928 and accepted by the State on May 22, 1928. The total cost was \$38,920.96.

Section 1, Paulsboro Causeway, 0.491 miles long, is on the Crown Point Road leading from Westville to Penns Grove. This is a grading job for raising the causeway at Paulsboro preparatory to paving after final settlement. The pavement is of macadam 20' wide by 8" deep and was accepted by the State on . The total cost was \$93,262.45.

Route 17-N,2

Carlstadt-Hasbrouck Heights, a length of 1.927 miles was paved with concrete 20' wide by 8" deep. Work was started on June 24, 1927 but was not finished until April 23, 1928. The work was accepted by the State on May 22, 1928. The final cost was \$154,363.18. All of the construction on this job was finished during 1927. The finishing and smoothing of shoulders was done as soon as weather conditions permitted in the Spring of 1928.

Section 3, Saddle River Bridge Relocation, a



of 0.369 miles, paved with macadam 20' wide by 8" deep. This route has been constructed on new right of way in order to eliminate the very sharp curve in the old road, to shorten the distance and to provide a better approach to the new bridge over Saddle River. A normal width of 66' for right of way was acquired for the length of the section. This contract consisted of a re-inforced concrete beam and slab bridge, with a span of 43', grading of the roadway, construction of a temporary macadam pavement. The cost of the finished job was \$33,583.31.

Section 4, the Franklin Pike-Hohokus, 0.120 miles long, extends from the Warren Place intersection to the Sheridan Avenue intersection. The purpose of the work was to widen and flatten out the sharp curve on the old road. This was especially dangerous due to its location on a 6% grade. The pavement was of concrete 50' to 60' wide. The final cost was \$26,652.13. It was accepted on June 12, 1928.

Route 18-S and Route 20--Malaga Relocation, a length of 1.302 miles, was paved with concrete 20' and 30' wide by 8" deep, and at the intersection this was widened to 40'. This project for the elimination of grade crossing at Malaga consists of the relocation of a portion of Route 20, leading from Westville to Millville and a portion of Route 18, the Harding Highway leading from Penns Grove to Atlantic City. The work consisted of grading and surfacing with gravel the approaches to the bridge and surfacing with concrete the remainder. The work was started on October 11, 1927 and completed on June 8, 1928. The cost was increased by building the approaches to the overhead bridge across the railroad

track, which is now underway. The final cost of the work was \$81,943.34.

Route 18-N            Section 5, Engelwood Cliffs-Alpine Road, 4.028 miles long, was graded 30' to 40' and paved to a width of 20' and a depth of 8", with concrete and bituminous concrete surface over old teford. Work was Started on August 31, 1927 and was completed and accepted on August 23, 1928. This section is a direct continuation, southerly of Section 1, constructed in 1925. It extends from Palisade Avenue in Engelwood Cliffs, following the old Sylvan Boulevard for 2.4 miles, thence along a new right of way for .9 of a mile thence back to Sylvan Boulevard and along same .70 miles to Section 1 in the Borough of Alpine. The pavement consists of 3.3 miles of concrete and .7 of a mile of bituminous concrete. The total cost was \$384,001.53. Two small bridges were included in the contract and cost \$4,059.30.

Route 18-S            Pitts Grove-Elmer, 3.57 miles long, was paved with concrete 20' and 40' wide by 8" deep and finished with gravel shoulders. The work started on March 12, 1928 and was finished and accepted on September 25, 1928. The cost of the finished road was \$170,785.07. The municipalities' share of this was \$12,535.80. This project is a part of the Harding Highway leading from Penns Grove to Atlantic City.

Route 25            Section 1, Crosswicks Creek to Robbinsville, a distance of 4,259 miles, was graded 40' wide and paved 20' and 40' wide by 8" deep. The work was started on March 15, 1928 and completed September 26, 1928 and it was accepted by the State on October 9, 1928. The total cost to the State was \$226,794.07. There were three small bridges on



this contract, the total cost of which was \$24,230.00.

Section 2, From Bordentown to Crystal Lake, a distance of 1.944 miles, was improved by grading to a width of 40' and 50' and concreted to a width of 20' and a depth of 9". This work was started on April 5, 1928 finished on October 27, 1928 and accepted on November 13, 1928. The cost of the completed work was \$135,699.61. This is a portion of the Route from Jersey City to Camden. This necessitated the building of a new bridge over Blacks Creek consisting of 2 spans of 34' each. The bridge was finished on September 30, 1928. It was accepted with the road on November 13, 1928. Its cost was \$55,310.62.

Route 25                      Section 4, Raritan River Railroad bridge, crosses the highway at Station 169+97. It consists of 5 spans making the total length including approaches of 191'. The work was started June 1, 1928 and was completed on November 10, 1928. The total cost was \$63,367.35.

Route 26                      Section 3, Penns Neck, Monmouth Junction Road, a length of 3.284 miles, was paved with concrete 29' wide by 9" deep and finished with 10.5 feet gravel shoulders. The work was started on May 3, 1928 and was completed on October 15, 1928. It was accepted by the State on December 18, 1928. The cost of the road work was approved in the amount of \$278,641.84. Two bridges were built under a separate contract, that over the Millstone River at a cost of \$46,921.40 and a small 10' span over a Spring run \$4,807.50 were not paid for until 1929.

Route 28                      Section 1, Bayway-Elizabeth, a distance of 0.589 miles was paved to a width of 40' from Broad Street in the City of Elizabeth to the easterly end of the Bridge Plaza.

The existing granite and blgin block pavement was removed from the full paved area and replaced within the trolley track space after the rails had been raised. The removed blocks were clipped and used as the header course along the outer rails. The blgian blocks were used in the track area. An eleven foot width of re-inforced concrete pavement was laid on the existing concrete base between the header course and the curb. Concrete curbing was set except at street intersections where granite was used. The bridge plaza was paved with a 10" concrete pavement from the existing southerly curb lines, the northerly right of way line of Bayway where it joined the pavement already laid. The work was accepted by the State on October 2, 1928. The cost of the accepted work was \$70,584.44.

#### Route 30

Section 6, Bridge over Lehigh Valley railroad crossing at Packers Island consisted of two spans 38.5' each and one of 67'. The width of the roadway was 40' and the total length of the work was 156'. The work was started on March 6, 1928 and completed on October 27, 1928. The cost of the job was \$42,846.62.

Section 7, the Allerton-Clinton Road, 3.944 miles long, was paved with concrete 20' wide by 8" deep and graded to a width of 40'. The work was started on January 2, 1928 and completed on December 1, 1928. It was accepted by the State on December 18, 1928. The total cost of road and bridges was \$307,600.00.

Section 3, Pennington-Woodsville Road, 3.644 miles, long, was graded 40' wide and paved with concrete to a width of 20' and a depth of 8". This section was built on a new



right of way with the exception of 1.25 miles on the Pennington end. It was finished in 1927 with the exception of the shoulders. These were finished and the work was accepted on May 28, 1928. The total cost was for the road \$229,228.29 and the three bridges, the latter cost of \$35,473.05.

Section 4, the Ringoes-Woodsville road, 4.66 miles long, was graded 40' wide and paved 20' wide by 8" deep with concrete. The work was started on June 7, 1927 but was not accepted by the State until July 17, 1928. The grades and alignment were greatly improved on this section by cut-offs at Woodsville and Rocktown. About 1.5 miles of this section was built over a new 66' right of way. The completion of this section and section 3 roads makes a concrete road surface from Trenton to Flemington, a distance of 27 miles, with the exception of a short piece of macadam each side of the Reading Railroad at Pennington. The cost of the road paving was \$263,886.20. Five bridges were included in this contract costing \$55,250.36.

#### Route 35

Shore Relief road, 3 Concrete slab bridges, are on No. 1 and were completed and accepted by the State on July 17, 1928. The cost of these was \$16,829.22. These were on Section 1.

Section 1, Shark River-Asbury Avenue, a distance of 2.623 miles, was graded 40' wide and paved 20' wide by 9" deep. The work was started on November 12, 1927 and was completed August 9, 1928 and was accepted by the State August 28, 1928. This is the first contract to be let on the much needed Shore Relief Route between Eatontown and Belmar. There were many construction details included in

the contract. There were 21,000' of curb, 74,000 square feet of sidewalk, over 2 miles of storm sewer plus 63 paved intersections. The cost of the finished job was \$288,889.25.

Section 3, Shark River Bridge Approaches, 0.739 miles long, was started on March 29, 1928 and was completed on September 18, 1928 and accepted by the State on September 25, 1928. The width of this work was 40' and that of the paved portion was 29'. This was of bituminous macadam 7" deep and was finished with gravel shoulders. The total cost was \$69,551.30.

Section 2, Asbury Avenue-Eatontown, having a length of 5.651 miles, was graded 40' wide and paved 29' wide by 9" deep was started on January 27, 1928 and was completed October 5, 1928 and accepted on October 30, 1928. This section with Section 1 on the south provides an additional route for shore travel south of Avon and at the same time relieves traffic congestion between Long Branch and Avon. Existing roads were used as far as possible. These were widened to 66'. A large part of this section was laid out over a newly purchased right of way. In straightening the line, it was necessary to traverse Hog Swamp for a distance of 3,800'. This was a low lying stretch partly covered by water. The pavement proper was of concrete 29' wide by 9" deep. The total cost to the State was \$407,395.43.

Route 41

Section 1, Fairview-Runnemede Road, 4.96 miles long, in the counties of Camden and Gloucester. This is a part of a route leading from Route 20 at Fairview through



to Moorestown with a span to the proposed Palmyra bridge. This section connects the Delsea Drive, route 20, with the Black Horse Pike, thus forming a valuable relief road around Westville and is an important cross-country link in the Highway system. The work was started December 8, 1927 and was completed on August 28, 1928. Its cost was \$231,239.01. Big Timber Bridge was included at a cost of \$91,964.87.

Delaware River Bridge Approach-Sections 1-A and 2-A, having a length of 3.162 miles. This contract together with Entrance Road Section #1 provides a new highway connecting White Horse Pike with the Delaware River Bridge by passing the traffic between Philadelphia and southern New Jersey, around the City of Camden. This road was graded in 1926 and is built over the marshes of the Cooper River Valley. Where the fills are still settling, a temporary gravel surface has been placed. This contract was awarded late in 1926 and opened to traffic July 1, 1927. The Roundpoint at White Horse Pike, however, being constructed later in the year to expedite the handling of traffic. The pavement was of gravel varying in width from 36' to 78' and to a depth of 10". Its cost was \$318,617.96. It was finished in 1927 but was not paid for until 1928.

At the beginning of 1928, the State Highway System consisted of Routes and Connecting Lines having a total length of 971.012 miles. There was taken over during the year 205.137 miles and 5.22 miles were abandoned, thus making the total mileage to December 31, 1928 to 1170.929

miles. The Construction program meant the addition of over 130 miles of new pavement. This sum is made up of 69.165 miles of pavement completed of the 153.818 miles placed under contract in 1928 plus 61 miles included in 1927 contracts. The cost of contracts completed during the year was \$13,284,312.22. There was a total of 54 highway contracts awarded during 1928 plus 17 separate bridge contracts. The lengths in these totaled 2.028 miles, making a grand total of 155.846 miles for roads and bridges. Eight of the contracts were on Route #1 Extension of the total of 153.818 miles, 8.179 miles were on Route #1 Extension and 15.36 miles were widenings on sections previously paved, and 10.146 miles were awarded by Ocean County under re-imbusement. Of the total contract amount of \$14,518,202.43, the sum of \$1,953,347.50 was spent on Route #1 Extension and \$699,358.40 was for the widening and track paving, \$678,146.91 was paid for by Ocean County, to be re-imbursed by the State. Of the total of 153.818 miles, there were about 61.681 miles of hard surface pavement completed on December 31, 1928.



## Route 1

Extensions, Sections 3, 12, 13 and 14-A were graded and filled in preparation for future work at a cost of \$40,257.46. This work was accepted on February 19, 1929. It cost \$19,439.00.

Section 4-A, Larch Avenue-Charlotte Avenue in Jersey City though only .026 miles long was an expensive job. It consists of a steel trestle containing 1,460 tons structural steel and 120 tons of re-inforcing rods and 2,550' of pipe railing; these items plus the cost of demolishing buildings on the new right of way explain the high cost of the job. This was \$439,111.35. The finished work was accepted by the State on December 19, 1928 but was not paid until January 1929.

Section 1, Tonnelle Avenue, 1.537 miles long, was accepted by the State on May 21, 1929. This was a concrete job which was started May 1, 1928 and practically during the construction season of that year except for the grading of the shoulders and the trimming of the slopes and finishing the concreting at points not made possible due to lack of right of way and the delay caused by the construction of the bridge over the Erie railroad. In the Spring of 1929, this work was finished and the job was accepted by the State on May 21, 1929. The finished cost was \$183,981.90.

## Route 1

Extension 14-A, Avenue I between the point south of South Street and a point north of Haynes Avenue. The work consists in general of the building of a concrete

covered steel viaduct with concrete foundations and the paving of the road way with granite blocks laid on a concrete slab foundation. This work was started on September 8, 1927 and was completed on July 9, 1929 and accepted by the State on that date. The cost of the finished structure was \$1,155,379.48.

Extension 14-B and 15 from Avenue I to Essex, Union County Line in the City of Newark, a distance of 2.871 miles was paved with 6" granite block laid on an 8" concrete foundation 48.5' wide. This work was started on May 1, 1928 and accepted by the State on August 19, 1928. The total final cost was \$733,784.39.

Section 13, Newark, is a section 1.85 miles that has been graded across the meadows and paved with bituminous macadam to make it usable till the final settlement is reached. The cost of this was \$14,679.71.

Section 16, Essex County Line to Julia Street, Elizabeth, a distance of 1.165 miles, was paved with bituminous macadam and bituminous concrete to a width of 48.5' and 68.5' and depth of 8" and some of 11". The work was started in June 1928 and finished and accepted on July 23, 1929. Paving was not started until the last of October. It was finished and accepted by the State on July 23, 1929. The cost to the State was \$285,379.55. It was found necessary to make borings in order to properly determine the cost of future construction. These were on the route in Jersey City and Bayonne and cost the State \$6,165.00. These returns were received on September 24, 1929.

Section 3, Oakland Avenue to Larch Avenue, a dis-



tance of 0.78 miles, was paved with granite block and asphalt to a width of 38.5' for granite block and 50' for concrete base and asphalt top and plain concrete. The paving was started in July 1927 and completed and accepted on December 31, 1928. The cost to the State to date is \$3,196,497.98. This was paid during the year a certain amount of work was held back for further investigation. The whole was finally settled by the payment of the sum of \$54,288.80. This agreement was reached March 18, 1933.

Extension S-17, 18 and 19, Julia Street to Ann Street and East Grand Street to Elizabeth River, a distance of 0.64 miles, was paved with bituminous concrete on a concrete base. The concrete base was 9" deep and the bituminous concrete top was 2" thick. The work consisted of finishing the whole job by building curbs and sidewalks plus the construction of sewers. Paving south of Elizabeth Avenue is not included in this job. The work was started on January and finished on December 7, 1929 and accepted on December 17, 1929. Its cost was \$233,416.61.

#### Route 1

Bridge over P. T. & T. R. R. Crossing, This is an encased I beam structure, composed of 2-39' spans. The width of the roadway is 50' and 2 sidewalks each 6' wide. The total length is 131'. The work was started on November 12, 1928 and finished and accepted on July 29, 1929. Its cost was \$47,369.74.

Section 4 and 5, Lincoln Highway, Wallace Avenue to Communipaw Avenue, a distance of 1.337 miles, is paved

with bituminous macadam and asphalt on a concrete base to a width of 40' and a depth of 8" and 11" on a graded width of 65'. The work was finished and accepted by the State on August 12, 1929. The cost of this job paid by the State was \$131,775.00.

Route 2                    A bridge was built over Rancocas Creek, between Sections 6 and 8. It is a bascule 60' long with 2 girder approaches of 86' each and 1 of 80' making the total length of the structure with its approaches 1,437.34'. The work was started on August 29, 1927 and was completed on December 19, 1928 and was accepted on January 29, 1929. Its cost was \$375,869.52.

Route 4                    Long Beach Bridge over Manahawken Bay, extends from Manahawken Landing to Ship Bottom Beach, a distance of 6,313'. The width of the roadway is 30', there are no sidewalks. The spans are of varying length. The foundation is of concrete on timber piles. The approaches are of earth and macadam. The work was started on June 19, 1928. The work was accepted by the State on April 9, 1929. The total cost was \$408,329.52. A slight increase of \$2,534.67 was all that was needed.

                            The Convery Place bridge over the L. V. R. R. This work consisted of a new concrete deck upon the old structure. The width of the new roadway is 29 feet; to this is added 2 sidewalks each 3' wide. As this improvement is for the benefit of the local people, the city contributed its share of \$10,000 toward the improvement the total cost of the improvement was \$21,551.94. The work was accepted by the State on March 5, 1929.



Section 16-A, a bridge with concrete deck laid on I beams and having a clear span of 45' and a roadway 40' wide plus 2-9' sidewalks and paved on the roadway with sheet asphalt. The work was finished with concrete approach slabs and standard concrete pavement. The total length of the job is 270'. The work was started on November 3, 1928 and finished on June 30, 1929. It was accepted by the State on July 23, 1929. The total cost was \$36,948.74.

#### Route 4

The removal of the old bridge over the Raritan River at Perth Amboy was finished and accepted by the State on July 1929. The cost was \$78,000.00.

Station 34-A, a bridge over Matawan Creek consists of a bascule draw 52' long, and 3-40' girder approaches at one end and 1-46' at the other. The roadway is 40' wide and there is 1 sidewalk 6' wide. The deck is covered with asphalt. The abutments and piers add to the length of the job making a total of 267.33'. The work was started on August 30, 1927 and was finished and accepted on July 29, 1929. The total cost was \$364,416.91.

The draw bridge over Cape Island Creek at the lower part of Route 4 has a clear span of 59'. Its roadway is 24' wide and it has a 6' sidewalk on one side. The deck covering is of wood blocks and the approaches are of macadam. The total length of the job is 329'. The work was started on September 26, 1928 and accepted by the State on September 5, 1929. The finished cost was \$140,114.75.

Section 1, South Amboy-Cheesequake, 3.646 miles long, was paved with concrete of varying widths from the

20' standard to 40' and 50.5' at street intersections all laid to a uniform depth of 9". The work was started on November 18, 1928 and completed on October 16, 1929. The finished cost was \$251,989.89.

A bridge was built over the roadway to Ferrins Claypit and has a clear span of 10' and formed a part of the job. Its cost was \$9,138.75. It was accepted with the road.

Section 2, a bridge was built over Matawan Creek in the north end of the town of Matawan. It consisted of center span of 56.5' and 2 sidespans of 38.25' each. The roadway is 50' wide, this flanked by 2 sidewalks each 6' wide. The deck was paved with asphalt blocks. The total length of the job was 145'. The work was started on July 12, 1928 and finished September 26, 1929. It was finally accepted by the State on October 1, 1929. The final cost of this work was \$94,684.07.

Route 5 and 6      Sections 1 and 2, Little Ferry-Palisades Park, a distance of 2.152 miles; a grading contract plus the construction of a culvert and the re-arrangement of the outfall from the sewage disposal works of the borough of Ridgely Park. The principal item was that of borrow to make the required fill; this amounted to 95% of the total. The work was started on April 20, 1928 and was finished on July 26, 1929 and was accepted September 17, 1929. The total cost was \$343,350.05. Final payment was delayed to November 12, 1929 due to the settlement of subcontractors claims. A culvert was built by the same contractor and was finished and accepted on June 6, 1929.



The cost of this was \$11,572.40.

Connecting Road, Camden Extension, Repairs to Bridge were finished and accepted on July 16, 1929. The cost was \$60,827.43.

Section 19 of Route 5 had 2 bridges finished and accepted on July 23, 1929. The first of these was a 19' extension of the D. L. & W. R. R. bridge. This was completed at a cost of \$61,008.54. The second bridge was a viaduct over the tracks of the D. L. and W. and Central R. R. and the Rockaway River. The total length of this structure is 1,043'. The width of the roadway is 40' plus a sidewalk on the north side having a clear width of 8'. This whole structure is on a new alignment. The work consists of the following: 100' of earth fill, to an abutment with short wingwalls. From this point to the concrete pier on the west bank of the Rockaway River, the structure is built consisting of 4 spans each 25' in length. The same form of construction is used between the Rockaway River and the spans over the two tracks of the Central Railroad of New Jersey, a length of 340' and also between the east end of this span and the easterly abutment which is also a length of 340'. The structure over the Rockaway River consists of two spans each 40' in length. The final cost of this work was \$171,968.91.

#### Route 6

Connecting Road, Sections 4-B and 5-A, Camden Extension, 1.874 miles long, was paved with concrete to varying widths of 28, 40 and 56' and to a depth of 10" and finished with bituminous concrete at the street intersections in the City and Boroughs through which it passes. The work

was started on September 14, 1928 and finished on July 20, 1929 and was accepted by the State on August 12, 1929. Its cost was \$202,522.45. This contract covered a section of the connecting road south between White Horse Pike point and the south branch of Newton Creek which had been previously graded and is a part of the route connecting Camden and points north with Route 45 and 47 to cities and shore resorts in the southern counties.

Section 17-A, Connecting Road, 5-A and 6-B, 2.307 miles long, was paved with concrete for the entire width of the roadway varying from 40' to 56' and finished with a curb. The depth of the concrete was 10". The work was started on October 15, 1928 and finished September 13, 1929. It was accepted by the State on October 1, 1929. The cost of the finished job was \$299,917.54.

Section 18, Westville to Woodbury, a distance of 1.892 miles long, was paved with concrete having a width of 29', except through the Main Street through Woodbury, where it was widened to 47' the depth of the concrete was 9". The work was graded to a total width of 71 to 80'. This project is partly over a new location and is a continuation of the connecting road along the westerly side of the W. J. and S. S. R. R. from Big Timber Creek to North Woodbury, connecting with old Route 6, now Route 45, at Woodbury. The total cost of the improvement was \$232,092.45. From this must be deducted the cost of extra work charged to the boroughs in the sum of \$27,496.10 leaving the net cost to the State at \$204,596.35.



of 0.379 miles, was started on June 11, 1928 but owing to delays on the new alignment crossing the trestle of the Lehigh and Hudson Railroad, the work was only 82% completed on January 1, 1929. Construction was stopped for the winter about the middle of January. At the request of the railroad company, the work was delayed in order to permit it to remove its trestle and place its tracks at grade. This was completed on May 1, 1929. The contractor resumed work as soon as the trestle was removed and the work was finished July 1, 1929. The total cost of the pavement was \$31,838.70. That of the bridge was \$22,333.14. It was accepted by the State on July 9, 1929.

Route 15

Section 10, East Creek-Delmont, 2.659 miles long, was paved with concrete 20' wide by 8" deep and finished with 10' gravel shoulders on each side, making the graded width 40'. Work was started on March 26, 1928 by the State Board of Control of Institutions and Agencies. This project is a part of Route 49, (formerly Route 15) from Salem through Millville to the Shore Road. The cost of the work was not completed until May 22, 1929 and was accepted by the State on June 4, 1929. The date of completion was set at 90 days but the actual finish was extended 182½ working days. The final cost was increased from \$108,925.83 to \$176,961.11.

Route 17-N-5

North Arlington-Rutherford, a distance of 3.80 miles, was paved with concrete starting on August 28, 1928 but was not finished in time to paid by 1929. The work was finished on January 7, 1930. The pavement was of concrete of varying widths, the main structure was paved to a

width of 29' and widened to that of 40' and 50' at intersections. The work was actually finished and accepted by the State September 24, 1929, but the settling of claims was not finished and the money released until January 7, 1930. The cost of the road was \$511,658.92; and that of the bridge was \$8,132.81.

Section 1-A, Rutherford-Hackensack, a length of 2.185 miles was paved with concrete 20' wide by 8" and 10" deep. This was increased to 40' at certain points. The work was started on October 2, 1928 and finished and accepted by the State on October 22, 1929. The cost was confined to the pavement and drainage. The total of these increased the cost to \$178,298.91.

Route 21 in Route 29

Route 25

Section 7, bridge over Parth Amboy R. R. consists of an encased deck girder consisting of 3, 36' spans and 2, 21' spans. The width of the roadway is 50' and it is paved with asphalt blocks. Its total length is 173'. The work was started June 28, 1928. It was finally finished and accepted on March 12, 1929. The cost of the finished job, to the State, was \$57,962.21.

Section 3, Farnsworth Avenue-Crosswicks Creek, a distance of 4.017 miles. This section runs from Farnsworth Avenue northerly to the Mercer County Line at Crosswicks Creek. This is now part of Route 39 and is now designated as Section 1. The pavement is of 8" concrete 20' wide except at intersections where it is widened to 40'. The roadway is graded 40' wide for the entire length. A bridge was built over Thornton Creek at the same time straightening the stream at that point. The total cost of



the completed job was \$202,682.93. The cost of the 12' bridge over Thornton Creek, included in the road contract, was \$7,725.72.

#### Route 25

Section 6, Port Reading Railroad bridge. This structure consists of 3, 35' spans formed of encased deck Girders. The width of the roadway is 50'. The pavement is of asphalt block. The total length of the structure is 116'. The work was started on September 10, 1928 and was finished on May 18, 1929. Its cost was \$36,963.59.

Section 5, bridge over Lehigh Valley Railroad at Metuchen is of encased girders and consists of 2 spans 40.5', 2 spans of 23.5' and 1 span of 38.5'. The total length of the finished structure is 183'. The work was started on January 2, 1929 and finished on August 17, 1929. It was accepted on September 17, 1929. The total cost was \$60,646.15.

Section 7, this Edgar Road from Rahway to Route 4, a distance of 2.917 miles. This was graded 50' and 60' feet wide and paved 50' and 29' with concrete 9" deep. The work was started on May 22, 1928 and was finished on September 19, 1929. The original contract called for a general width of 29' but as the job was nearing completion it was decided to place an extra slab of concrete 10.5' wide on the east side. The final cost of the finished road was \$512,309.65.

#### Section 7

##### Rahway River Bridge

Section 4, Cranbury Turnpike, Raritan River Bridge, a distance of 2.988 miles was graded to a width of 50'. This section is a by-pass around New Brunswick for

the heavy through traffic. Because of the embankment for the bridge approaches, it was deemed wise to let the contract for the grading only, thus giving the embankments time to settle before the paving was placed. The work was finished and accepted by the State on September 5, 1929. The total cost was \$118,436.79.

A cattle pass was built by the same contractors. It was accepted on September 5 also. Its cost was \$8,713.80.

Section 6, From Route 4 to Amboy Avenue, a distance of 3.788 miles was paved with concrete to a width of 29' except at road intersections where it was extended to 50' and 60'. Its depth is 9". The work was finished and accepted by the State on December 17, 1929. The road and bridge were in the one contract. The cost of the pavement was \$515,943.48. The cost of the two bridges was \$68,824.80.

Section 3, a small bridge was built on the southern end of this job at a cost of \$33,230.47, and was accepted by the State June 4, 1929.

#### Route 25

Section 20, Elizabeth, Grove Street to City Line at Edgar Road, a distance of 0.80 miles, was paved with bituminous concrete on a concrete base. It was paved 48.5' wide and to a depth of 9". It was graded to a width of 66'. The work was completed on November 20, 1929. Its final cost was \$236,733.62. It was accepted by the State, December 10, 1929.

Section 8A, this contract covered a 6' culvert and 14' slab bridge and the foundations of a 25' span. The total cost of all these was \$8,383.59. These were accepted by the State, December 17, 1929.



Route 26

Section 4, Monmouth Junction Road-Deans Road, a distance of 5.167 miles, was paved with concrete 29' wide by 9" deep and was graded to a width of 50' and finished with 10.5" of gravel. The work was started on May 7, 1928 and completed on January 2, 1929 and accepted on January 8, 1929. The total final cost of the road was \$429,950.27. Two culverts, one of 8' span and the other of the same size, were included in the job at a cost of \$8,216.46. The most noticeable change on this section was the 10.5' cut at the Sand Hills. This heavy cut caused a large expenditure of time and money on the part of the telephone and gas companies to adjust their conduit and gas lines to the new grades. This is an improvement of the old straight line turnpike between Trenton and New Brunswick. It is a part of the longest straight line of road in Northern New Jersey.

Section 3, two bridges over the Millstone River were built, one of 106' span, the other of 10' span. The over all width of the first is 50'. That at Station 7+75 is concrete encased I beams, that at Station 39+67 is a concrete slab. The work was completed December 18, 1928, but claims were not satisfied until February 1929. It was accepted by the State on March 5, 1929. The cost to the State was \$52,811.83.

Route 26

Section 2, Delaware and Raritan Canal to Penns Neck, a distance of 4.783 miles, was paved 29' wide by 9" deep with concrete and graded 50' wide. The work was started on June 4, 1928 and finished on April 24, 1929. It was accepted on April 30, 1929. The cost of the fin-

ished work was \$404,642.06. One of the outstanding features of this section is the solid shoulders which were made possible by using the old concrete base, that was taken out from Clarksville to Penns Neck.

Section 1, Delaware and Raritan Canal to Trenton, a distance of 3.252 miles this length represents that which was left after deducting the portion used for the traffic circle. This portion was accepted by the State on July 23, 1929. Its cost was \$273,794.71. The pavement is of concrete 29' wide and the graded width of the roadway is 50' and 60'. The depth of the pavement is 9".

Section 5, Deans Road to Cranbury Turnpike, a distance of 5.346 miles was paved with concrete 20' and 29' wide by 9" deep. Work was started on May 21, 1928 and finished on July 26, 1929. The work was accepted by the State on September 5, 1929. Two bridges were included in this contract. The cost of the paving and grading was paid for separately, this amount was \$573,145.73. The two bridges cost \$8,705.38 and were accepted with the road pavement.

#### Route S-26

Section 4, Bridge over Main Line P. R. R. just south of the New Brunswick line. The total length of the project is 204'. Its roadway width is 50' plus 2 sidewalks each 6' wide. There are three spans 1 of 88' and 2 of 47' each. It is of encased Though Girder Type. Construction started on August 11, 1928 and was finished on August 7, 1929. The cost of the finished job was \$122,636.31.

Connecting Link, Jersey Avenue and Adams Station Road, 2.173 miles long. This was built as a connecting



link with French Street in the City of New Brunswick using Jersey Avenue. The line is over a new 66' right of way until it reaches Jersey Avenue. The pavement is 20' wide by 9" thick. It is of concrete. The work was started on November 26, 1928 and was finished on October 14, 1929, and was accepted by the State, November 4, 1929. The cost of the finished work was \$125,486.03.

A small bridge of 10' clear span and having a length of 13' was included in the road contract. It was finished on June 28, 1929. Its cost was \$3,907.44. This was accepted with the road on November 4, 1929.

Five bridges were built on Route 26, by one contractor. The spans were as follows: Station 66+50--two 30' spans, Station 122+77--one 30' span, Station 165+32--thirty-two 13' spans, one 176+06--two 30' spans and at Station 314--one 20' span. The cost of all of these was \$78,776.02 and they were accepted by the State on June 25, 1929. These were all on Sections 1 and 2.

#### Route 29

Elizabeth River Bridge is of the encased girder type. Its span is 67', the width of the roadway is 50' flanked by two 6' sidewalks. The total length of the structure is 74'. It was finished on December 29, 1928, but was not accepted until January 1, 1929. The cost allowed by the State was \$40,257.46.

#### Route 21 + 29

Section 3, this work begins at the intersection of Route 25 (Haynes Avenue) and Peddie Street in the Newark Meadows and extends northerly toward Poinier Street over new right of way 50' wide for 547' to the Newark Zone line. Beginning at the same point, the Meadows section of Route

29 now under contract extends westerly toward Weequahic Park for a distance of 868', over new right of way 50' in width to Parsons Drainage Ditch. From this point to the Meeker Avenue Bridge at Weequahic Park, a viaduct with ramps will be constructed.. The portion, Section 3, in Weequahic Park is over new right of way 59' wide. 20' of this new width was acquired from the Lehigh Valley Railroad Company and remainder from the Essex County Park Commission. The portion under contract extends from Meeker Avenue southwesterly to Weequahic Lake, at the proposed underpass beneath the Lehigh Valley Railroad. This was a grading job simply. Heavy embankments were placed in the meadows and just west of Meeker Avenue Bridge, hence no paving was specified.

#### Route 29

The total length of this project is 1.728 miles. The length under grading was 0.976 miles. The work was started on September 1, 1928 and finished on February 1, 1929 and accepted on February 26, 1929. The cost of the finished work was \$195,306.75.

The Meeker Avenue Bridge was started on September 2, 1928 and finished on April 5, 1929. The bridge has a clear span of 72'. Its roadway is 50' wide and its over all length is 80'. The work was accepted on April 30, 1929. Its final cost was \$56,684.37.

Section 1, This was a grading and drainage job and was started on June 21, 1928. It extends from North Broad Street in Hillside Township to Oakland Avenue in the Town of Union. Its length is 2.40 miles. It is expected that the paving of this section will be started early in



1930. The cost of this preliminary work is \$146,472.74.

Section 5, Alexanden Creek Bridge is built of Longitudinal encased I beams. Its clear span is composed of three 28' spans. The width of the roadway is 40' and it has two 25' approach slabs. The total length of the job is 143'. Work was started on April 1, 1929 and finished on August 27, 1929. The final cost was \$19,889.15. It was accepted by the State on August 17, 1929.

#### Route 29

Section 2, Stuyvesant Avenue, Union to Westfield Avenue, Mountainside, 3.633 miles long. This section begins just west of Stuyvesant Avenue in Union Township and passes over a new right of way 75' wide to Chestnut Street at its crossing by the Rahway Valley Railroad. From this point, Chestnut Street is used for a distance of 1.50 miles, widening the existing 66' right of way to 75' between the railroad crossing and the Rahway River and to 80' feet from the Rahway River west. Leaving Chestnut Street the location is over new right of way 80' in width to Westfield or Mountain Avenue and Mill Road in the borough of Mountainside. Grading was started on October 5, 1928. It was paved with concrete 29' wide by 9" deep except at intersections and drainage points where it will be increased to 50' the graded width. The work was finished on September 14, 1929 and accepted by the State September 24, 1929. The total of contract was \$276,666.45. One culvert was built at a cost of \$7,950.12. This was a concrete slab of a clear span of 9.50'.

Section 6, a bridge was built over Swan Creek at Mt. Airy having a clear span of 32', a roadway of 50'

plus two 6' sidewalks. The work was started on May 29, 1929 and finished and accepted by the State on November 4, 1929. Its total cost was \$13,017.60.

Section 2-A, Oakland Avenue to Stuyvesant Avenue, 0.93 miles long, was graded and drained. This project begins at Oakland Avenue and runs to a point just west of the intersection of Chestnut Street and Stuyvesant Avenue in the Township of Union and is over a new right of way of varying widths. This section is the flying junction between Route 29 and the proposed Route 4 over passing Route S-24, (Morris Avenue). No pavement was laid. Work was started on June 5, 1929 and finished on October 31, 1929. It was accepted by the State on November 19, 1929. The total cost was \$82,266.19.

Section 5, Ringoes, Mt. Airy, 3.577 miles long. The principal unusual feature of this job was the Mt. Airy cut-off, this reduced the previous grade of 6% to 4.30% and saved considerable money in adjustments of Right of Way. The pavement was of concrete 20' wide by 9" deep. After the pavement was cured, improved shoulders were started. These were a new feature and were built as follows: 6" of hard rock was hauled from the Mt. Airy Cut-off and laid 10' wide on each side of the pavement. Following the building of the improved shoulder, top soiling and seeding were started. It was finished by placing 2" of 3/4" stone on top of the improved shoulders. Work was started on April 15, 1929. It was finished on September 24, 1929. Accepted by the State September 29, its cost was \$200,960.15.



Station 12+75. This had a clear span of 21' and was finished and accepted by the State with the road. Its cost was \$6,474.62.

Section 6, Mt. Airy-Lambertville, 2.74 miles long, was paved with concrete 20' wide by 9" deep. Work was started on April 25, 1929 and was finished on November 25, 1929 and accepted by the State December 3, 1929. The completed cost was \$240,938.10.

#### Route 30

Section 5, Flemington-Packers Island, a distance of 4.396 miles was paved. The work on this section was all completed during 1928, with the exception of cleaning up and some curb and drainage items at the undergrade passage of the Central Railroad east of Flemington. The work was finally completed and accepted by the State on June 25, 1929. The final cost of the pavement was \$225,459.50.

There were four small bridges built by the road contractor, viz. at Station 86+95--8' span--\$2,337.72

114+10--20' span--\$10,150.84

156+98--13' span--\$4,172.80

186+15--26' span--\$10,692.94

Total-----\$27,354.30

These were accepted by the State with the road.

#### Route 30

Section 6, Packers Island--Allerton, a distance of 4.189 miles. The main features of this contract is the large bridge over the south branch of the Raritan River, the bridge over the Lehigh Valley R. R. under separate contract and the large fill, connections and approaches. The road contract was commenced on January 16, 1928 and was completed on May 29, 1929. The pavement is of concrete 20' wide by 8" deep. the Cost of the road work was

\$269,074.30. The cost of the three bridges was \$125,875.05.

These formed a part of the road contract. These bridges

were as follows:	Station 236+57--3--68'	spans	\$94,220.00
	328+25	25' span	11,639.30
	374+68	48' span	20,652.00

Net total--minus \$636.00--\$125,875.05.

#### Route 31

Section 2, Netcong-Bartley, a distance of 4.824 miles, was paved 20' wide except at intersections and drainage points where it was widened to 30'. Its uniform depth was 9". Work was started on April 16, 1928 and was completed on September 3, 1929 and was accepted by the State on September 17, 1929. An open winter allowed the contractor to do much work, including excavation and headwalls, but a very wet Spring delayed the work so that the work was not finished until September 3, 1929. The cost of work inclusive of bridges was \$389,150.16. There were 7 bridges on this job three 14' slabs, three 8' slabs and one 22' I Beam.

Section 1, Chester-Bartley, a length of 3.841 miles, was paved with concrete 20' wide except at intersections where it was ~~extended~~ widened to 40'. The depth was uniformly 9". The work was started on April 18, 1928 and was finished on September 30, 1929 and was accepted by the State on October 1, 1929. There were 2 bridges included in this contract. Their cost was for an I beam structure of 50' span \$23,216.42 and second was a three span concrete slab \$25,986.63. A total of \$49,203.05. The road and two bridges were accepted by the State on November 1, 1929.

Section 3, Netcong-Andover, a length of 5.928



miles. This road was paved with concrete 20' wide plus road intersections and drainage points where it was widened to 40'. The uniform depth of the concrete was 9". Work was started on June 1, 1928 and finished on September 14, 1929. It was accepted by the State on September 24, 1929. The total cost of the grading and paving was \$594,874.09. The extra cost was due to relaying pipe etc. in the borough of Netsong. Three small bridges were built at a cost of \$15,732.43. These were accepted at the same time as the road.

#### Route 35

Section 5, Red Bank-Middletown, a distance of 2.578 miles. This was a widening of the existing pavement from 18' to 50' in the populous sections and on steep grades and on the remaining sections to 29'. Curb was built where the pavement was laid full width. The old pavement was patched where it was broken. The work was pushed rapidly so that it was only necessary to perform work in the amount of \$6,191.42 in 1929. The work was finished on January 15, 1929 but was not accepted until May 28, 1929. The total cost was \$149,041.42.

Section 6, Middletown Relocation, a length of 1.769 miles. The construction of this section eliminates the bad curves and reduces the grades that exist in the present highway through Middletown, as well as provides a width comparable with that of the adjacent sections. This was chiefly over new line. The main work was finished in 1928 except shoulders, guard rail, clean up and a few blocks of concrete that could not be placed because of non-acquisition of property on the Keyport end of the job. The work was completed on May 16, 1929 and accepted by the State, on June 4, 1929. The final cost was \$168,241.68.

Section 7, Middletown, Keyport Widening, a distance of 3.909 miles. Originally this section was paved with 20' of concrete or bituminous concrete surface on a concrete foundation with a 3' shoulder on either side. This pavement has been widened to 29'. The right of way was increased from 50' to 60' to a minimum of 80' and all structures encroaching were removed, thus greatly aiding driving vision. The work was started on September 26, 1929. It was accepted by the State on October 8, 1929. The total cost of the road pavement was \$204,303.45. Two bridges were included at an added cost of \$8,995.05.

Section 4, Eatontown-Red Bank Widening, a length of 2.616 miles. This is the last section to be let to make the graded width 40' between Amboy and Eatontown. The existing asphalt pavement was widened from 21' to 29' on an 8" concrete base by placing a 4' strip on



each side, except in the borough of Red Bank and at curves where the pavement was mooned out. Work started on January 29, 1929 and was completed on August 22, 1929. It was accepted by the State on September 5, 1929. The cost of the pavement was \$81,503.11, to this must be added the cost of extending a culvert \$1,659.88. This was a concrete slab extension of an 8' culvert.

Route 37

Sections 1 and 2, Point Pleasant-SeaSide Heights, a distance of 10.146 miles. This project was carried on by the forces of Ocean County and was taken over by the State for re-imbursement on March 26, 1929. The total cost of the project was \$675,422.62. The work was nearly completed in 1928 but about 9% was left to be done in 1929.

Section 3, Lakehurst to Toms River, a distance of 4.395 miles, was paved with concrete 20' wide by 8" deep. The work was started on February 18, 1929 and completed on August 22, 1929. It was accepted by the State on September 17, 1929. Its cost was \$176,583.43.

Route 39

Section 2, Bordentown-Chambers Corner, a distance of 8.183 miles, was not finished and accepted until 1930.

Route S-41

Section 2, Kings Highway-Marlton, 5.265 miles long, was paved with concrete 20' wide except at intersections where it is 30'. Its uniform depth is 9". The graded width varies from 40' to 56'. The work was started on April 4, 1929 and finished on May 7, 1929 but owing to disputed claims, it was not paid for until October 9, 1931. The final cost to the State was \$240,689.76.

A 7" macadam pavement laid in connection with

the repairs and reconstruction of the existing road as temporary alignment for State Highway S-41. The total final cost to the State was \$32,642.50. The work was started July 30, 1929 and finished on August 20, 1929. It was accepted on September 17, 1929.

Route 44                      Section 5, Gibbstown-Bridgeport, a length of 2.396 miles, was started on July 3, 1929 but was not finished.

Route 47                      Section 1, Hesstown-Hunters Mills, a length of 4.204 miles, was paved with gravel 40' wide by 6" deep. The work was started on October 23, 1928 and was completed on August 28, 1929 and accepted by the State on September 17, 1929. This is a part of the route from Millville to Tuckahoe. The final cost was \$48,651.98.

Section 2, Millville-Hesstown, a distance of 5.803 miles, was paved with concrete 20' wide except at road intersections and drainage points where it was widened to 40', the uniform depth was 8". This work was started on May 8, 1929 and completed on November 30, 1929 and was accepted on December 10, 1929. The final cost to the State was \$253,517.37.

Two bridges cost the State on January 7, 1930, \$23,706.80.

Section 3, Hunters Mills-Head of River, a length of 3.560 miles, was paved with gravel 40' wide by 6" deep. The work was started on April 30, 1929 and completed on November 15, 1929. It was finally accepted on December 10, 1929 and cost \$59,090.02. On



this Section, there were three bridges that cost \$31,121.10. These were accepted on January 7, 1930.

#### Route 48

Bridge over Scotland Run at Malaga Lake is an encased I beam structure having a clear span of 22' with a roadway of 40' and one 10' sidewalk. The total length is 76.5'. Work started on December 17, 1928 and was finished on July 3, 1929. The cost of the finished structure was \$23,038.73.

Section 20, Pittsgrove-Woodstown road, 5.459 miles long. This is part of the route from the ferries at Penns Grove to Atlantic City, known as the Harding Highway. It furnishes a direct route from Wilmington, Delaware and points south to Atlantic City. The pavement is of concrete 20' wide by 8" deep. The work was started on December 21, 1928 and was completed on August 17, 1929 and accepted by the State on September 17, 1929. The total cost was \$231,878.30. There were three bridges included in this contract. These were of concrete slabs, having the following clear spans at Station 154 + 06-- a 20' clear span, costing \$5,057.52, Station 207 + 32.5-- a 12' clear span, costing \$5,922.01, Station 276 + 83-- a 10' clear span, costing \$5,492.09, making a total cost of \$16,471.62. These were accepted with the road on August 17, 1929.

During 1929 construction work on the State Highway System was in progress on 350.249 miles of various types of highways, 119 streams bridges, 27 railroad grade separations, and 21 highway grade separations, the total

value of work performed in 1929 being \$13,400,021.56, for roads and \$6,771,857.74 for bridges making a grand total of \$20,171,879.30. The above comprises:

1. The work on 113.117 miles of highway, 36 stream bridges, 10 railroad crossing separations and three highway grade separations that were started in 1928 and finished in 1929.
2. The work performed in 1929 on 14.009 miles of highway and 1 stream bridge that was started in 1928 but will carry over into 1930.
3. The work performed in 1929 on 19.596 of highway, 17 stream bridges, 6 railroad crossing separations, and 2 highway grade separations that were started and completed in 1929.
4. The work performed in 1929 on 169.013 miles of highway, 53 stream bridges, 11 railroad grade crossing separations and 16 highway grade separations that were started in 1929 but will be carried over into 1930.
5. The work performed in 1929 by several counties under re-imbursement agreements on 33.395 miles of highway, 12 stream bridges of which 23.249 miles of highway and 9 stream bridges will be carried over into 1930.
6. The work performed by the Maintenance Division on 1.119 miles of highway for and on account of the Construction Division .035 miles of which will carry over into 1930.

From the above it is to be noted that contracts



covering 143.943 miles of highway, 54 stream bridges, 16 railroad crossing separations, and 5 highway grade separations were completed in 1929, including that work which was started in 1928 and completed in 1929; and that contracts covering 206.306 miles of highway, 63 stream bridges, 11 railroad crossing separations and 16 highway grade separations will carry over to 1930. About 2,950,000 square yards of concrete pavement were laid on the State Highway System during 1929.

The Fort Lee Bridge Approach is a most conclusive example of the super-highway principal in providing for the carrying of the traffic to and from and past the Hudson River Bridge at Fort Lee which work presented a very difficult engineering problem. It was considered that such a large investment in the Fort Lee Bridge should do more than afford a crossing which would only develop the territory immediately adjacent to the bridge, and that the greatest return would be had by making it possible for traffic to go to a considerable distance from the bridge at high speed with a minimum of delay. It was also necessary that local access be provided to all routes without interfering with the movement of fast through traffic.

The plan finally adopted by our Department gives practically uninterrupted flow at high speed to all bridge traffic to points several miles into the interior. A particularly unique feature of the design is a three-level highway structure in Fort Lee.

The end of 1929 saw the opening of the Raritan River Bridge, which bridge is a shining example of the work

being done by the Highway Department. The completed cost of this structure was \$1,560,269.40. This bridge is composed of 6 spans 202' and 9 of 40', the width of the roadway is 50' plus 2 sidewalks of 9.58' each. The approaches are of earth. The total length of the project is 1902'. The work was started on April 19, 1928 and accepted on January 7, 1930. The total cost to this date was \$1,514,652.34. The final cost of the complete structure including the lighting of the structure was \$1,560,269.40. This was accepted by the State on May 27, 1930.

# Statement of Total Receipts, Expenditures and Cash Balance

## Funds

Cash balance January 1, 1929 \$ 7,181,429.60

## Receipts:

Sale of bonds	\$10,000,000.00
A. State Road Tax	2,264,017.35
B. State Gasoline Tax	9,802,116.27
C. Motor Vehicle Fees,	
Fines, etc.	13,496,580.66
Federal Aid	598,513.21
Municipalities, Extra	
Width etc.	319,291.07
Interest	4,460.37
Permits for Openings	1,377.50
Essex & Hudson Counties	
on a/c Boat damage to	
Hackensack Bridge	103,458.02



Transferred from State  
Police Fund as its share  
of cost of approach to  
Police Training School 6,000.00

Total Receipts \$43,777,244.05

Notes:

A. Total receipts State Road  
tax 1928 \$ 6,422,519.15

B. Sinking Fund and Interest  
Requirements 4,158,501.80

Available to Department 2,264,017.35

B. Total Gasoline Tax receipts 9,912,156.27

Certified to the department

Less Appropriations:

Expense of collection \$ 20,000.00

Dep't. of Commerce and

Navigation 90,000.00

\$ 110,040.00

Available to Department \$ 9,802,116.27

C. Total Motor Vehicle Fees

etc. certified to Dep't. \$14,511,032.66

Less Appropriations:

Expense of Motor Vehicle

Dep't 763,452.00

Free Bridge Commission 251,000.00

\$ 1,014,452.00

Available to Department \$13,496,580.66

Disbursements:

Administration

General	\$260,659.82	
Laboratory	<u>185,749.46</u>	\$ 446,409.28
Construction of State Highway		
Roads	\$13,540,619.42	
Construction of State Highway		
Bridges	6,217,344.06	
Tree planting on State Highway	<u>334.85</u>	19,758,298.33
Engineering and Inspection		
Roads	\$ 1,113,595.01	
Bridges	221,651.04	
Advisory Board Projects	<u>333,804.82</u>	1,669,050.87
Purchase of Right of Way		4,995,043.36
Negotiating	\$ 263,832.84	
Titles	208,336.78	
Condemnations	<u>119,409.37</u>	591,578.99
Maintenance of State Highway Roads & Bridges		2,100,272.51
State Aid to Counties, Municipalities		
County Maintenance and		
Reconstruction	\$ 2,891,203.11	
County and Municipality		
Emergency Aid	995,789.16	
Township and Borough		
Construction Aid	<u>889,185.65</u>	4,776,177.92
Engineering and Inspection:		
Roads	\$ 1,113,595.01	
Bridges	221,651.04	
Advisory Board Projects	<u>333,804.82</u>	1,669,050.87
Purchase of Right of Way		4,995,043.36
Negotiations	\$ 262,832.84	



Titles	\$ 208,336.78	
Condemnations	<u>119,409.37</u>	\$ 591,578.99
Maintenance of State Roads and Bridges		2,100,272.51
State Aid to Counties, Municipalities:		
County Maintenance and		
Reconstruction	\$ 2,891,203.11	
County and Municipality		
Emergency Aid	995,789.16	
Township and Borough		
Construction Aid	<u>889,185.65</u>	4,776,177.92
Engineering and Inspection of County:		
Municipality and Town-		
ship Aid		153,705.51
Purchase of Plant and Equipment		<u>146,119.63</u>
		\$34,636,656.40
Less: Depreciation		<u>128,898.79</u>
		\$34,507,757.61
Cash Balance December 1, 1929		<u>9,269,486.44</u>
		\$43,777,244.05

## Route 1

Section 2, Tonnelles Avenue Extension, 2.755 miles, long, extending from the Jersey City Line at the end of Route #1, Section 1 to the Bergen Turnpike, was placed under contract in the fall of 1928. During the 1929 construction season, a 40' single re-inforced concrete pavement 9" deep, was constructed on Route #1, Section 2. This pavement is now open to traffic, is practically completed with the exception of two short spaces for which the right of way has not been obtained this was finally secured and the work finished and accepted by the State on May 6, 1930. The final cost of this work was \$690,291.05. There was included in the above, the grading of 4,200' on Route #3, Section, across the meadows.

Section 1, Work done and material furnished by clearing of channel at Hackensack River Bridge, removing counter-weight and re-building of section of east rack at mile post 57.8. The work was started on September 16, 1929 and finally finished on March 29, 1930. It was accepted by the State on April 1, 1930. The final adjusted cost was \$47,786.23. This included an extra for dredging the channel of all granite blocks, concrete and piling to the satisfaction of the engineer of the War Department.

Section 4-C and 5, known as Wallace Avenue and Communipaw Avenue (Lincoln Highway) a distance of 1.337 miles, was paved with bituminous macadam and asphalt to a width of 40' and a depth of 8" and 11". The graded width



is 65'. The work was started on July 7, 1928. Two extensions of time were granted. The work was accepted by the State on August 12, 1929 but due to claims of creditors, the work was not paid for until

Owing to the advent of winter, the pavement was changed from asphalt to concrete on November 13, 1928. The principal cause of increase in contract price was due to unstable foundations, as a result the finished cost was increased from \$131,775.00 to \$149,718.45.

Section 5, South, Broadway to Communipaw Avenue, a distance of 1.16 miles, was improved by scarifying and rolling the old bituminous coated macadam surface, and the laying of a one course bituminous concrete pavement thereon, the relaying of existing stone block gutters. The work was started on May 26, 1930 and was finished on July 19, 1930 and accepted by the State on August 4, 1930. The adjusted contract price was \$48,545.94.

Section 5, three bridges were built on this section. They were located in West Side Park. These were small short spans. These were started in 1929 but were not finished. The total cost was \$94,289.96. They were accepted by the State on October 7, 1930. The cause of this delay was due to the fact that the work had to be finished by the bond men.

#### Route 2

Sections 1 and 2 Widening, Paterson Plank Road from Carlstadt to Williams Avenue, a distance of 2.51 miles. This job consisted in widening the 20' concrete pavement by the addition of 10' of concrete pavement plus a 2' gravel shoulder on the easterly side and a 10' gravel

shoulder on the westerly side. Due to the difficulty in securing suitable gravel for the shoulders, about 2/3 of them were constructed of 3" light bituminous macadam. The work was accepted by the State on October 28, 1930. Due to the bad natural soil, this pavement was laid 10" deep. The cost of this work was \$64,928.00.

### Route 3

Section 2, Paterson Plank Road Relocation, grading and drainage only, a distance of 3.295 miles. This work was started on April 11, 1929 and finished and accepted by the State on April 15, 1930. The total cost was \$540,776.52.

Section 3, Hackensack River Bridge, Construction of River Piers. This work was started on April 15, 1929 and was completed and accepted by the State on March 18, 1930. The construction consisted of the building of 5 piers, 2 piers on Rock and 3 piers on timber. The total cost of this preliminary work was \$503,974.30.

Section 3, Clifton to Market Street, Paterson, a distance of 1.37 miles exclusive of bridges, was paved with concrete 30' and 60' wide by 9" deep. The extra width being laid at road intersections and special drainage points. Work was started on July 9, 1929 and finished on August 7, 1930. It was accepted by the State on November 17, 1930. Its final cost was \$146,039.62.

Section 4, Market Street, First Avenue, a distance of 3.149 miles, was paved with concrete of varying widths to fit the various sections viz. 20', 30', 40' and 65' wide, the depth was also varied to 8", 9" and 10". This work was started on May 5, 1930 but was not completed



before the close of the year.

Route 4

Section 2, Cheesequake-Matawan, 3.853 miles long, was paved 20', this at road interseptions was widened to 40', the depth of the concrete was 9". The work was started on May 2, 1928. It was completed and accepted by the State on December 31, 1929 but was not paid for until January 1930. The cost of the pavement was \$362,065.27.

A bridge composed of three spans as follows: one span of 56.40' and two spans of 38.25' each was built over Matawan Creek and accepted by the State on October 1, 1929.

Section 5, a bridge was built over Saddle River at Station 112 + 50. This was a concrete arch structure having a 70' clear span, an over-all width of 78.75' and a roadway width of 60'. It was started on March 10, 1930 and finished on September 18, 1930. It was accepted on October 21, 1930. Its cost was \$64,928.00.

Section 5, the Paterson-Arcola Road, 2.161 miles long, was improved by paving with various materials viz. re-inforced concrete, granite block F. A., B. C. and bituminous macadam, the depth of the pavement also varied from 9" to 10". The work was started on July 20, 1929 and was finished on August 29, 1930. It was accepted by the State on September 16, 1930. The final cost to the State was \$359,306.63. The work was completed at the close of 1929 except at the easterly end, including the Saddle River Road Intersection. These were finished by constructing a traffic circle

Route 5

Section 19A, Dover-Denville, 3.195 miles long, was paved with concrete 29' and 40' wide by 9" deep except over the heavy fills at bridge approaches. The pavement for these points was a bituminous concrete on a macadam base. Due to the fact that these fills were made in 1928, consequently the approach fills to the viaduct over the Rockaway River were paved with concrete using a special re-inforced slab adjacent to the abutments. Adjoining the bridge the base was built with a haunch resting on the abutments and was heavily re-inforced. The cost of the job was \$256,093.93.

Section 1-D, Township of Denville, This section which was built by the township of Denville with State Aid, extends from the Diamond Spring road intersection, Route 6 to TenBrook including intersection at Bloomfield Avenue, a total length of 816' was paved to a width of 46' to 50' and a depth of 9", with concrete. The work was finished and accepted by the State on November 25, 1930; the State's share of the cost was \$18,722.56.

Route 5 & 6

Section 1-A, Embankment and bridge. This section extends over the Northern Railroad of New Jersey, in Ridgefield to Harriet Avenue, Palisades Park, Bergen County. The project includes the construction of bridges over the Railroad and over Grand Avenue, the placing of a heavy fill between them, ramp connections to Grand Avenue and the construction of a concrete crib wall between the main highway and the North Ramp. Work was started on September 18, 1929 and accepted by the State on September



3, 1930. The entire work was let to one contractor and was divided into grading, the cost of which was \$103,138.52, Bridge, 61' clear span over Grand Avenue, \$81,692.67 and over-pass, N. R. R. of N. J., this consisted of one 60' span and two 33.5' spans making a total length of 13.9', the cost of this structure was \$65,947.07, making a grand total of \$250,778.26. The whole work was accepted by State on September 3, 1930.

Section 16-A, the Dover extension Cut-off, and 3 bridges all in one contract, were started on February 9, 1929. The length of this section is 0.59 miles including the bridges. The pavement was of 9" concrete and was laid 40' wide. The entire job was accepted on July 1, 1930. The cost of the pavement was \$131,869.68. The bridges were located as follows:

Station 33 + 29 over C.R.R. of N.J., 2 spans 72'

Station 11 + 38.5 Granny's Brook 1 span 20'

Station 20 Underpass W. Blackwell Street and over D. L. and W. R. R. and the Rockaway River. The bridge at Station 33+29 was of structural steel encased in concrete, mounted on concrete piers and abutments. That at Station 20 + is of structural steel encased in concrete. That at Station 11 + 38.3 is the widening of the present concrete arch with re-inforced cover slab. The total cost of these bridges which were accepted by the State on July 1, 1930 was \$289,325.29.

Route 6

Section 1 Sub-structure, Little Ferry for Hackensack River Bridge. This consists of 4 Piers. This

work started on October 2, 1929 and was completed and accepted by the State on July 15, 1930. The total cost was \$223,050.46.

Section 3, East Brinkerhoff Avenue-Lester Street, Palisade Park and Fort Lee, a distance of 0.875 miles, was graded and drained only. The work was started on November 21, 1929 and completed and accepted by the State on November 6, 1930. The cost of this was \$297,992.63. Tree planting was included in this job. Its cost was \$9,469.50. Making the total cost of the job to the State \$307,462.13.

Routes 5 & 6      Overpick Creek bridge consists of a drawbridge and five approach spans as follows: 4 spans of 83.67' 1 span 78.33' and 1 span 43'. The foundation is of concrete on timber piles. The width of the roadway is 50' plus 2,6' sidewalks. The total length of the project is 518'. The work was started on January 26, 1929 and finished on July 26, 1930. The completion of this work was delayed due to difficult foundation conditions encountered. The final cost was \$372,021.63.

Route 6      Section 3, Brinkerhoff Avenue-Lester Street Palisades Park and Fort Lee, a distance of 0.875 miles, was graded and drained. The ~~foundation~~ formation of a heavy embankment with necessary bridges over intersecting streets and a grade separation at the intersection with Route S-1. As the project extends through a built up residential section, the road was treated as a parkway with all slopes warped and landscaped. Construction progress was exceptional owing to favorable weather conditions. The



final cost to the State was \$307,462.13. This included \$9,679.50 spent for tree planting. The work was accepted on November 6, 1930.

#### Route 8

Section 2, Yellow Frame-Fredon Road, 3.664 miles long, was paved with concrete 20' wide except at road intersections and drainage points where it was widened to 30'; the uniform depth was 9". Work was started on September 26, 1929 and finished on August 28, 1930 and accepted by the State on September 16, 1930. The total cost the State was \$201,773.17.

Section 5, the Fredon-Newton Road, 2.645 miles long. This project is another portion of the direct route from Blairstown to Newton and extends from the intersection of the Stillwater Road and this route to the southwest boundary of Newton. The work was started on May 9, 1930 and laying of concrete was started on June 28, 1930 and completed August 8, 1930, and was accepted by the State on October 14, 1930. The cost was \$154,674.40. No material change was made in alignment as that had been attended to when the road was improved some years ago. The finished cost was \$154,674.40.

Section 3, Blairstown-Woodpecker Point Road, 0.951 miles long, was paved with concrete 20' wide by 9" deep. The grading on this project was finished last year. This year the concrete pavement was constructed from the new bridge over Blair Creek to the macadam road leading from Blairstown to Columbia; the width of the concrete was 20' and its depth 9". The work was started September 30,

1929 but was not finished during the 1930 season.

Two culverts were constructed on this job but the finish was delayed due to difficulties encountered in acquiring right of way.

Bridge #1 consisted of a concrete slab encased I beam, having a clear span of 2-24.58' spans. The width of the roadway was 40'. The total length of the structure was 70' work was finished on November 8, 1930. A small culvert was also included all of which was paid for by Warren County and the State reimbursed the County in 1931.

#### Route 10

Section A, Charlotte Avenue to Hackensack River Bridge, a distance of 0.36 miles, this work consisted of construction of an embankment, plus concrete foundations, for future structures plus other work such as drainage, timber piling, concrete caissons, etc. This extensive work started on April 18, 1929 and was finally completed on April 3, 1930 and was accepted by the State on April 29, 1930. The adjustment of claims, made by the contractor, caused considerable delay as a result the work was certified for payment finally on the above date. The total cost was \$514,422.70. This was certified to the Comptroller on November 6, 1930.

Section C, Fish House Road to Newark Turnpike, forming the west approach to the Hackensack River Bridge. The work consisted of constructing a temporary roadway of surface coated macadam; regrading and repaving a portion of the Newark Turnpike with reset granite blocks on existing and new plain concrete foundation; grading and



paving of westerly approach of Section C, with granite blocks on re-inforced concrete foundations. The length of this section is 0.16 miles. The work was started on August 25, 1930 and completed on November 14, 1930 and accepted by the State on November 25, 1930. The cost of the work was \$59,738.97.

Section B, Fender Construction and removal, Hackensack River Crossing, from Jersey City to Town of Kearney was started on September 22, 1930 and finished and accepted by the State on November 25, 1930. The cost of the entire work was \$20,527.91.

Route 21

Section 5, Second River Bridge, a single span of 45' with an overall width of 100' and a roadway width of 70'. The structure was of steel beams encased in concrete thus forming a concrete slab and longitudinal beam bridge. Its cost was \$27,536.01. It was accepted by the State on July 15, 1930.

Route 25

Section 8A, Edgar Road, Grand Street and Stiles Street, a length of 1.337 miles was paved with concrete to a width of 29', in addition to existing concrete, its depth is 10". The work was started on July 5, 1929 but was held up by a failure to make satisfactory negotiations for the required right of way with the Union County Park Commission. As a result, the laying of concrete pavement was not resumed until June 19, 1930. The paving was completed on July 23, 1930 and the entire job was finished and accepted on October 14, 1930. The total amount paid on account was \$131,411.80. The extension past the County Park was paid for on Octo-

ber 14, making the finished cost \$169,155.65.

#### Route 25

Raritan River Bridge was accepted by the State on May 27, 1930. Its cost was \$1,560,269.40. It was described in the previous reports. Borings were made in order to determine the depth and nature of the soil over which new work was to be pushed during the coming year. The cost of this was \$13,619.96. This work extended over the section between Jersey City and Newark.

Section 15 (Route 1 Extension) known as Peddie Ditch Overpass at Junction of Routes 21 and 29, a length of 0.203 miles consisted of an earth fill finished with bituminous macadam having a depth of 8" placed over an encased plate girder bridge crossing Route 21 and 29. This bridge has a clear width of roadway of 28.6'. The work was started on March 22, 1929 and completed on October 19, 1929. It was finally accepted by the State on October 22, 1930. The delay was caused by the settlement of disputed claims. The total cost to the State was \$97,278.72.

Section 4-A, Cranbury Turnpike-Raritan River Bridge, a length of 2.988 miles. This job was let late in the summer of 1929, after the roadway had been graded and drained. The paving was not completed until late in December 1929. The gravel shoulders, guard rail slopes and ditches were completed in the spring of 1930. The total cost of the work was \$220,928.68, and it was accepted by the State on May 27, 1930.

Section 13-14B-15 and 16, a distance of 1.61 miles was started in 1929 and finished and accepted by



the State on October 7, 1930. The total cost was \$239,-  
537.00.

Fenders for bridge over Passaic River. These were of timber. This work was started on March 10, 1930 and finished and accepted by the State on June 24, 1930. The finished cost was \$21,346.51.

Section 15, a re-inforced pipe culvert was built over Bound Creek. This was a relocation project which was started on March 13, 1930 and completed on July 3, 1930 and accepted by the State on July 22, 1930. The cost was \$32,473.50, to this was added the cost of engineering \$2,435.51 for this a bill was presented to Newark \$34,909.01.

Sections 18 and 19, the Elizabeth Viaduct and approaches. This work consisted of the construction of a viaduct some of the spans being steel, others concrete, an approach fill with retaining walls, the placing of granite block, bituminous concrete pavement and other incidental work. Three crossings of the Elizabeth River are involved. The width of the pavement is 48.5'. The length of the job is 0.524 miles. Its total cost was \$769,999.03. The work started on August 26, 1929 and was finished on July 22, 1930.

#### Route 25

Section 15A, Weston Avenue to McClellan Street. This consisted of the construction of a bituminous concrete pavement. The work was started on July 8, 1930 and was completed on August 25, 1930, accepted by the State on September 3, 1930. Its final cost was \$59,956.05.

Section 8C, Widening, Edgar Road-Grand Street

to Wood Avenue, a distance of 1.698 miles, was paved with concrete on one side to a width of 11'. This work was started on March 5, 1930 and was completed on August 19, 1930 and accepted by the State on September 3, 1930. The total cost of this job was \$60,947.63. This widening was forced by the increasing travel.

Section 7, Edgar Road to Route 4, a distance of 2.917 miles, was paved to a width of 29' except at a few points where it was found necessary to widen to 50' the concrete was laid to a depth of 9" and the macadam to that of 7". The work was started on May 22, 1928 and completed on October 9, 1930 and accepted on October 28, 1930. Its final cost was \$514,166.90. The cause of the delay was that the City of Rahway made a cut in the pavement at Milton Avenue Intersection for a large sewer before the contract was entirely finished, as a result the contractor was required to return and re-pave this area after the trench had been allowed to settle for some months.

Section 4-B, Widening through the City of Burlington. The old pavement of 20' of 8" concrete to 40 and 50' through the built up section of the City. The length of this job was 0.423 miles. The work was started on April 24, 1930 and finished on October 28, 1930. Its cost was \$29,352.15. It was accepted by the State on November 25, 1930.

Section 8-B, Edgar Road, Wood Avenue to Eliza-



beth City Line, a distance of 1.882 miles, was paved with concrete for its whole width from 40' to 60'. The depth of the main pavement was 10" except over culverts, this was increased to 12". This work was started on April 15, 1930 and it was finished on November 19, 1930. The cost of this paving was \$259,626.65. A concrete slab was laid over Orcard Brook \$6,976.90. A culvert with a 12' span over Standard Co. pipe \$4,250.00 and an extension to this culvert at a cost of \$1,200.00--\$12,426.90.

#### Route 26

Section 1, Trenton to Delaware and Raritan Canal, a distance of 3.406 miles was constructed in 1928 except the intersection with Route 27 at the City Line of Trenton. The design of this intersection was changed to a traffic circle so that a safer connection could be had with the Calhoun Street Extension which enters at this point. The circle was designed and built with a 150' radius for the inner circle and a 200' radius for the outer circle. Safety islands were constructed at all intersecting streets with a minimum paved width of 25' on the outside of each island for the traffic connections. The property acquisitions delayed the construction of this circle until the latter part of the summer. The total final cost was \$356,260.43. The construction of the traffic circle increased the cost by about \$50,200.00.

Section 6, Livingston Avenue, New Brunswick from the City Line of New Brunswick to the through line of the section. The width of the pavement varied as follows for 2270', it was a 9' strip for 4500', it was

29' and the last section it was extended to 60'. The pavement was of 2 course asphalt on a 7" concrete base and cost \$200,031.85. The State's share was \$124,714.40.

#### Route 28

Section 5-A, Union Avenue, Bound Brook. This work was done by agreement with the boro of Bound Brook whereby the State agreed to contribute \$35,000.00 toward the widening of the pavement from 20' to 40'. The work started on June 16, 1930 and was completed on September 25, 1930, the total final cost was \$62,888.19. The pavement laid was of concrete 8" deep by 7.33' wide on the outside of which a curb and gutter were added. The State's share was composed of two items, the \$35,000.00 plus the cost of inspection \$1,988.34 making a total contribution by the State of \$36,988.34. The work was accepted by the State on December 16, 1930.

Section 15-B, North Avenue, Westfield, from Garwood Boro line to Elmer Street, a distance of 0.6025 miles, a 10' strip was paved with concrete 9" deep on each side was paid for by the Town except some drainage work which the State paid for \$13,905.10.

#### Route 29

Section 2A, a bridge over Stuyvesant Avenue having a clear span of 2,67' sections a roadway width of 50' plus 2.6' sidewalks. The total length of the structure was 147'. The work was started on March 20, 1929 and finished on January 11, 1930. The cost to the State on January 21, 1930, date of acceptance, was \$93,944.06. On this section, a bridge was also built over Morris Avenue in the township of Union. It con-



consisted of 2 - 47.41' spans and had a width of roadway of 65'. Work on this was started on May 10, 1929 and was completed on February 15, 1930. The total cost of the structure was \$93,330.37 to the State.

Section 7, a bridge over Peters Brook in Somerville, was built with a clear span of 38' and a width of roadway of 76' plus 2 - 12' sidewalks. The total length of the project was 142'. The work was started on July 22, 1929 and was completed on May 20, 1930. Its finished cost was \$48,156.27. Four other bridges were built on this route by this contractor as follows: viz.

Station	35	72' span		\$ 5,772.00
"	78	22' "	(Peters Brook)	8,753.50
"	127+	12' "		5,807.15
"	214+	62' "	(Middle Brook)	26,689.92

These were all accepted on June 24, 1930 and the lump sum of \$95,178.84 was approved by the State.

#### Route 29

Section 7 extends from the existing concrete on Route 28 just west of Somerville to Thompson Street north of the borough of Bound Brook and is one of the sections of the new route that by-passes the congested sections of Somerville, Bound Brook, Dunellen and Plainfield. It is over a new right of way 80' wide plus sufficient sight easements at the main road crossings. The work was started on May 17, 1929 and completed on August 6, 1930. It was accepted by the State on September 3, 1930. The final cost was \$448,758.41. The length of this improvement was 4.214 miles.

Section 8 is located in the Borough of Bound Brook and township of North Plainfield. It begins at Thompson Street, the end of Section 7 and extends to Washington Avenue, Dunellen. This a continuation of the by-passing route, the whole section lies at the foot of the first Watchung Mountain and passes by the site of the encampment of the Continental Army under General Washington during the period from December 1778 to June 1779. The highway at Station 44 crosses one of the trenches constructed by his soldiers and parallels the same between Stations 45 and 49. It was necessary to construct a dry masonry wall from Station 57 to 59 in order to preserve this trench.

#### Route 29

Section 8, wet weather delayed the work so that the laying of the concrete did not start until October 6, 1929. The work was finished on July 10, 1930. The length of this section is 4.214 miles, the pavement is 30' wide in the main and 50' at road intersections and drainage points. It is of concrete 9" deep. The work was started on May 17, 1929 and finished on August 6, 1930. It was accepted by the State on September 3, 1930. The concrete was laid 9" deep and the sides were paved with crusher new stone varying in depth from 4" to 9". The cost of the finished job was \$383,964.18.

Sections 4 and 9, four bridges were built as follows:

Section 9	Stoney Brook	an	encased I beam	40'	span	\$15,637.99
"	9 Green Brook	"	"	I "	40' "	17,949.16



Section 4-Small stream-an encased I beam-22' span \$11,260.90

" 4 " " " " I " 10' " 7,614.39

(a slab of)

Making a total of \$52,462.44. These were accepted by the State on September 16, 1930.

Section 9, Washington Avenue to the Union and Somerset Counties line near Scotch Plains, a distance of 4.84 miles, was paved with concrete wide 30' by 9" deep and finished with shoulders of quarry run stone from 6" to 9" deep. The work was started on June 19, 1929 and finished on August 13, 1930. It was accepted by the State on September 3, 1930. The cost of the finished job was \$432,555.35. This section lies in the township and boro of North Plainfield and the boro of Watchung. The concrete was finished on May 23, 1930.

#### Route 31

Section 7, Wallkill River Bridge, a single span of 55' of encased Plate Girder structure with a clear roadway of 40' was started on June 3, 1929 but was not finished until August 19, 1930. The construction was delayed due to leaving the old bridge in place for maintaining roadway traffic during the construction. The cost of the structure was \$31,591.57.

Section 7, Hamburg, North Church, 2.854 miles long, was paved with concrete to a standard width of 20' and to prevent excessive wash, this was increased to 36' and 40' and a curb constructed for 2000', the depth of the concrete was 9". The work was started on June 17, 1929, but the paving was stopped on November 21, 1929.

It was resumed on May 28, 1930 and completed on July 9, 1930. Due to the encountering springs, it was found necessary to build a number of underdrains. This added to the cost. The work was accepted by the State on October 7, 1930. The total cost was \$237,065.60.

Section 4, Somerville By-pass road, 1.469 miles long, was paved with asphalt and finished and accepted by the State on September 30, 1930. Its cost was \$109,607.35. A cattle pass and the Raritan River Bridge. The items of this project are as follows:

The bridge over the Raritan River consisted of a four span reinforced arch, composed of two 100' and two 80' spans, having a width of roadway of 50' plus 2 sidewalks each 6' wide. The total length of the structure is 1902' including the earth fill and concrete pavement forming the approaches. The cost of this work was \$211,225.97.

A cattle pass having a clear span of 12' was built by the same contractor at a cost of \$10,040.76. The whole work was accepted on September 30, 1930. The above section extends from the existing concrete pavement at the north entrance to Duke ~~and~~ Park, thence crossing the Raritan River over a new concrete arch bridge, the new bridge being 200 feet westerly of the old bridge, thence in a northwesterly direction, crossing the Flemington branch of the Central Railroad of New Jersey at Grade thence over the meadow to Somerset Street, Raritan; a spur starting at the north end of the new bridge connects with Bridge Street, Somerville. This job is over new right



of way 80' wide and will by-pass the business district of Somerville.

Section 5, Chester-Gladstone, a length of 4.828 miles, this work is carried over a new right of way and the grades are greatly reduced. The work was started on September 24, 1929 and was finished on October 28, 1930. The pavement was of concrete 20' wide by 9" deep. In addition to the improvement made by the paving must be added of the great easement in the grade of the new alignment. The cost of the finished job was \$343,120.60.

Section 6, Gladstone-Bedminster, a distance of 3.875 miles, extends the work south. The work was not finished by the end of the year. Two bridges were finished on December 12, 1930 and accepted by the State. The cost of these was \$11,369.00.

#### Route 33

Section 17, Corlies Avenue, Golf Course to Stokes Avenue, consists of widening the pavement 3.5' on each side with 8" concrete. The remainder of the job was widened by a 10' gravel shoulder on each side of the existing bituminous pavement which was laid on a macadam base. The work was started on March 24, 1930 and was finished and accepted on August 4, 1930. The final cost of this work was \$43,674.00.

Sections 15 and 16--Nottingham Way, Mercerville and Robbinsville, a distance of 2.367 miles was paved with concrete of varying widths viz. 30', 40', and 48'. The depth was a uniform 9". The road was finished with macadam shoulders 17' and 18' on the north side and 7'

and 8' wide on the south side. This macadam varied from 6" to 9" deep. The work was started on May 12, 1930 and was finished on August 9, 1930 and was accepted by the State on September 3, 1930. The cost of the finished work was \$190,445.31.

Route 34

Section 1, Gravelly Brook and Willow Brook Bridge, the bridge over Gravelly Brook has a clear span of 33'. It is an encased I beam structure having a roadway 50' wide plus 2 sidewalks each 6' wide. The total length of the structure is 89'. The work was started on September 3, 1929 and was finished and accepted by the State on June 3, 1930 and cost \$24,224.99. The bridge over Willow Brook is a concrete slab with a span of 18' with a roadway of 50' plus 2 sidewalks of varying width, the overall length is 28'. This was finished on October 24, 1929 and cost \$14,978.30. Both bridges were accepted on June 3, 1930.

Section 1, the Matawan-Holmdel Road, 5.046 miles long, was paved with concrete 20' and 40' wide by 9" deep and finished with gravel shoulders 8' and 10' wide. The work was started on June 3, 1929 and completed on May 29, 1930. It was accepted by the State on June 24, 1930. The cost of the structure was \$337,392.44. Undergrade under the Central Railroad of New Jersey was built under separate contract and the State's share of the cost was \$17,520.00.

Route 35

Section 34-B, Matawan and Luppatacong Creek, 0.967 miles long, was paved with concrete 40' wide by



by 9" deep. This section is that across the Keyport Meadows and Matawan Creek over which the grading was done in 1926 and 1927. There was also some work done under this contract on Luppatacong Creek. This was opened in 1926. It was not opened to traffic on July 20, 1929. Due to the pushing out of the soft muck, under the Matawan Section, it was necessary to place 8500 cubic yards of borrow. There is still some sign of settling which compels a constant maintenance of the macadam pavement and embankment. The work was finally accepted by the State on November 19, 1929. The total cost was \$72,788.94 but payment was withheld until April 1, 1930.

#### Route 37

Section 4, North Branch of Toms River was spanned with a bridge over the north branch of the Toms River. This was of the encased Deck Girder type with a clear span of 2--34.67' lengths. The width of the roadway is 50'. The total length of the project is 84'. The work was started on October 1, 1929 and completed on April 15, 1930. It was accepted by the State on May 6, 1930 and the final cost of the structure was \$31,063.82.

Section 4, Toms River Relocation, a length of 3.967 miles. The most of this section was completed during 1929 except that from Route 4 westerly to the Lakehurst Road. The bridge construction over the Toms River delayed the completion of this section so that it was not open to traffic till April 30, 1930.

This portion of Route 37 keeps traffic bound to and from SeaSide to points north and west from entering

the business section of Toms River, thus greatly relieving the traffic congestion. The pavement is of concrete 20' wide by 8" deep and backed with gravel 8" deep. The work was started on June 1, 1929 and completed on May 8, 1930. It was accepted by the State on June 3, 1930. The total cost to the State was \$225,497.00.

#### Route 39

##### Section 2, Six bridges on this section:

1. Station 1073 Blacks Creek span 9.5'
2. " 1078+65.45 Blacks Creek " 45'
3. " 1273+88 Crafts Creek " 16.5'
4. & 5. " 1355+49 and 1472+55.21 Assisicunk & Parkers Brook

6. " 1394+78 Branch of Assisicunk Creek 12'

#1 was a concrete re-inforced slab.

#2 " " " encased plate girder.

#3 " " " reinforced slab.

#4 & #5 longitudinal I beam encased widening.

#6 was a reinforced concrete slab.

Work was started on July 5, 1929 and completed on January 15, 1930 and it was accepted by the State January 28, 1930. The total cost was \$69,110.84.

Section 7, Two bridges over Springer and Muskingum Creeks. The bridge over Springers Creek is a concrete slab having 3 spans of 15' each, a roadway 40' wide but no sidewalks. The total length of the structure is 70'. The work was started on September 6, 1929 and finished on March 20, 1930. Its cost was \$17,465.25. That over Muskingum Creek is a concrete slab of 20' clear span with a



roadway 40' wide. The work was started on January 3, 1930 and finished on April 10, 1930. Its final cost was \$13,008.15. Both of these bridges were accepted by the State on May 6, 1930.

Route 39

Section 2, Bordentown, Chambers Road 8.183 miles long, was widened with concrete on two short sections, bituminous concrete patching and the grading necessary to widen the roadway to 80'. The concrete was laid 20' wide by 9" deep. The whole job was started on April 25, 1929 and finished on April 1, 1930. Accepted by the State on April 22, 1930. The final cost of this job to the State was \$98,879.15.

Section 7, Oak Shade-Indian Mills, a distance of 7.292 miles was paved with concrete 20' wide by 8" deep the roadway was graded 40' wide. The work was started on May 24, 1929 and finished on August 4, 1930 and accepted the same date. The cost to the State was \$380,496.74. This section is a continuation of the cut off for traffic from Jersey City and points north to Atlantic City and other south Jersey points.

Section 3, Chambers Corner-South Pemberton Road, a distance of 3.474 miles, was paved with concrete 20' wide by 9" deep. The work was started on October 11, 1929 and finished on October 11, 1930 and accepted by the State on October 21, 1930. Its cost was \$209,112.67.

Section 9, Great Swamp, White Horse Pike, a distance of 3.20 miles was paved with concrete 20' wide by 8" deep. This work was started on April 22, 1930 and finished

on November 26, 1930 and accepted by the State on December 9, 1930. The final cost was \$175,490.24. This includes a bridge which was specified on the contract.

Section 8, Indian Mills-Great Swamp, a distance of 6.193 miles, was paved with concrete 20' wide by 8" and 10" deep. Work was started on August 20, 1929 and completed September 25, 1930. It was accepted by the State on October 7, 1930 but was not presented for payment until December 31, 1930. The adjusted price was \$327,608.15.

Sections 4, 5 and 6, South Pemberton to Oak Shade, a distance of 6.709 miles was paved with concrete 20' wide by 9" deep. This work started on July 24, 1929 and was finished on October 18, 1930 and accepted by the State on October 21, 1930. The total cost to the State was \$335,483.12.

Section 8--five bridges were built on this section as follows:

At Station 2681, a 14' concrete slab having a roadway of 40' and total length 40' cost \$5,381.62.

At Station 2695, a concrete slab 20' span and cost \$22,085.75.

At Station 2807 a concrete slab 20' span cost \$11,504.17.

At Station 2812 a concrete slab 20' span cost \$12,704.56.

At Station 2880+ an encased I beam 30' span cost \$9,822.51 making a total of \$51,498.61 plus extra



allowed \$36.00. Accepted by the State September 16,  
1923 \$61,534.61.

#### Route 40

Section 2, Lakehurst-Whitings, a distance of 5.111 miles. It was paved with concrete 20 feet wide by 8" deep and backed by shoulders 15' wide by 8" to 6" deep of gravel. This work was started on August 5, 1929 and accepted by the State on August 18, 1930. This was another reimbursement project. The work was handled by the Ocean County officials subject to occasional State inspection. The existing road was widened by purchasing additional right of way to secure an 80' width. The alignment was improved by using a new location for 1.80 miles on which it was necessary to remove 23,847 cubic yards of wet excavation. This was across swampland. Concreting started on October 11, 1929. Work was stopped during the winter. Paving was resumed on March 31, 1930 and finished on May 23, 1930. The total cost of the paving was \$273,837.92. A bridge was built over Hurricane Brook costing \$14,499.40. Total cost--\$288,337.32. This bridge consisted of one span of 20'.

#### Route S-40

Section 1, Cedar Bridge, Manahawken, a distance of 7.444 miles. The pavement was of concrete. This work was also done under the reimbursement Act. The work being done entirely by Ocean County. A new alignment 80' wide was laid out across the pines and in order to bring the roadway through the center of Manahawken, it was necessary to cross swampland adjacent to Mill Creek. Muck and roots down to a depth of 6' was removed and back filled with sta-

bel material. This item of the contract called for 21,500 cubic yards of wet excavation. The length of this is 7.444 miles. It was paved 20' wide by 8" deep with concrete and finished with gravel shoulders. The work was started on August 6, 1929 and carried to completion on July 17, 1930. It was accepted by the State on August 18, 1930. The total cost of the job to the State was \$436,007.07. Two bridges were included in this job. One at Station 296+62, over Mill Creek Cost \$22,965.83 and the other at Station 394 over Mill Stream costing \$22,276.40. These were also accepted by the State on August 18, 1930.

**Route S-40**            Section 2, Cedar Bridge, County Line, a distance of 4.34 miles was paved with concrete 20' wide by 8" deep. It was graded 50' wide. The work was started on May 23, 1930 and was completed on November 26, 1930. It was accepted by the State on December 29, 1930. Cost \$222,724.28.

A bridge at Station 56+80 was included at a cost of \$8,910.00. This section was constructed by Ocean County under the Reimbursement Act. A large portion is across the "Plains" where several good sized cuts were made.

**Route S-41**            Section 2, Kings Highway to Marlton, a distance of 5.265 miles, was paved with concrete 20' and 30' wide by 9" deep. The work was started on April 4, 1929 and finished on May 7, 1930 and accepted by the State on May 27, 1930. The final cost of this job to the State was \$240,689.76. This section between Kings Highway and Marlton is a part of Route S-41 between Palmyra and Berlin.



This route is a direct line from Palmyra Bridge to the White Horse Pike at Berlin and will furnish when completed a Route from Pennsylvania and the west over the new Palmyra Bridge to Southern New Jersey points, thus avoiding the congested section of Philadelphia.

Section 3, A bridge over Kresson Lake having a clear span of 16' was built of a concrete slab giving a roadway width of 56' and 2 sidewalks each, 12' wide. The total length of the job was 80'. The work was started on December 20, 1929 and finished on April 10, 1930. The final cost of the completed work was \$11,678.60.

Section 1, a bridge was built over Route 25 and at Maple Avenue, an underpass was included in the same contract. Work was started on the Maple Avenue job on January 29, 1930 and on the bridge over Route 25 on January 15, 1930. The cost was as follows on the Maple Avenue job \$60,358.70 and over Route 25 \$72,188.14. The work on both jobs was accepted by the State on September 30, 1930.

Section 3, a bridge was built over Kresson Lake having a clear span of 16 feet and a width of roadway of 56' plus 2 sidewalks each, 12' wide. The work on this started on December 20, 1929 and completed on April 10, 1930. The total cost was \$11,678.60.

Section 3, Marlton-Cooper Road, 3.939 miles long, was paved with concrete 20' wide except a special points where it was widened to 40'. The uniform depth

was 9". The work was started on April 24, 1930 and was completed on September 20, 1930 and accepted by the State on September 22, 1930. The final cost was \$189,333.96.

Two bridges were built over Pensauken Creek; one at Station 54+60; this cost \$95,560.39; the other at Station 128+65; its cost was \$44,904.96. These were accepted on December 22, 1930.

#### Route 42

Sections 1 & 2. Williamstown to the Atlantic County Line. This section is known as the Black Horse Pike and is designed to relieve the heavy traffic on the White Horse Pike between Camden and Atlantic City. The length of the portion is 7.708 miles. The width of the pavement is 20' on the main line, widening to 30' at road intersections. The depth of the concrete is 8". This work was started on August 1, 1929 and was completed on April 18, 1930. It was accepted by the State on April 22, 1930. Its final cost was \$414,563.74.

Section 3. This section starts from the City Pavement and runs through the suburban boroughs and two townships to Chews Landing. The pavement varies from 30' to 40' to 46', in other words, from curb. The concrete is 9" deep. Its length is 5.79 miles. The work was started on June 19, 1929 and was finished on July 9, 1930. It was accepted by the State on August 4, 1930. The final cost to the State was \$623,710.23. This section was built



by Camden County and for it, the State re-imbursed the County; less the amount of \$20,973.23 charged to the adjacent municipalities. The cost of the road to the State included that of three bridges at:

Station 19+50	1 span	14'
Station 64	1 span	22'
Station 173+24	1 span	10'

plus a re-inforced concrete slab at 219+63. The total final cost of these bridges was \$87,015.60. The whole job was accepted by the State on July 15, 1930.

#### Route 42

Section 4. Chews Landing to Gloucester County Line, a distance of 3.965 miles. This is an extension of section to the Gloucester County Line. The work was started on August 21, 1929 and finished on July 22, 1930. The work was executed by Camden County under the Re-imbusement Act and was accepted by the State on August 4, 1930. The final cost of pavement was \$340,171.89. Included in the road contract was three bridges located as follows:

Station 330+23	14' span	\$37,049.75
Station 388+45	10' span	11,292.25
Station 459+12.5	10'	<u>5,900.00</u>
Total		\$54,242.00

These were accepted by the State on August 4, 1930.

#### Route 43

Section 10. Berlin widening for a distance of 1.37 miles through this borough to facilitate the handling of the heavy summer through traffic. The work was

started on December 18, 1929 and was finished on June 9, 1930. The concreting was carried out all to the graded width of the roadway; its depth was 8". It was accepted by the State on October 7, 1930. The total cost was \$64,417.83.

#### Route 44

Section 5. Gibbstown to Bridgeport, a distance of 2.718 miles, was paved with a penetration macadam 7" deep. The width of the pavement varied from 20' to 40'. Work was started on April 28, 1929 and completed on September 8, 1930. It was accepted by the State on October 14, 1930. Its cost was \$286,080.40. The main feature of this improvement is that it furnishes a direct connection between Camden and the Ferries between PennsGrove and Wilmington, Delaware and thence to the southern states. Three bridges were built on this section viz.:

A concrete slab of 18' clear span over Sand ditch, costing \$20,744.93. A bridge over Repaupa Creek, 18' span, \$10,281.75. A bridge over White Sluice, 18' span, \$15,617.25 making a total of \$46,643.93. All of these bridges were finished and accepted by the State on May 27, 1930.

Sections 3 and 4. Bridgeport-Nortonsville, a distance of 1.376 miles, was paved with bituminous macadam 20' wide by 7" deep. This contract consists of building causeways across the swamps at Nortonsville and Bridgeport. This improvement provides another sec-



tion of the line from Camden to the lower ferries. The finished cost to the State was \$441,575.19.

Route 45

Section 4C. Camden Extension Connecting Road, a distance of 0.354 miles, is paved with concrete 40' and 56' wide by 10" deep. This construction is of an underpass on Connecting, Route 45, at West Collingswood, which provides a Route from Camden and points north to cities and shore resorts in the southern counties. The work was started on May 8, 1930 and finished on September 11, 1930. It was accepted by the State on October 7, 1930. The final cost to the State was \$62,093.45. This extension runs from Taylor Avenue to Grant Avenue.

Route 47

Section 2. Millville-Hesstown, a distance of 5.812 miles, was paved with concrete 20' wide by 8" deep, except at road intersections where it was widened to 40'. The work was started on May 8, 1929 and was finished November 30, 1929. The total cost to the State was \$253,517.37. The State's share of this was \$240,667.77, and Millville's share of this was \$12,849.60. Disputed claims against the contractor delayed final payment until December 10, 1930.

Section 4. Head of River, Tuckahoe, a distance of 3.40 miles, was paved with concrete 20' wide except at road intersections where it was widened to 40'. The uniform depth of the pavement was 8". The work was started on October 16, 1929 and it was finished on November 21, 1930. The cost was \$242,342.87. This work between Head of River and Tuckahoe is part of this route

from Westville to Tuckahoe via Millville. Part of this job was over new location.

Section 9. Westville-Glassboro, a length of 11.125 miles, was a widening of the existing pavement, part with extending same to the curb line and part with gravel shoulders and the re-surfacing of portions of the existing bituminous surfaces with sheet asphalt of varying thickness. The work was started on May 29, 1929 and finished on September 15, 1930. It was accepted by the State on October 7, 1930. The cost of the entire job plus engineering costs was \$215,000.76. A bridge was included in this job having a clear span of 24' with a 40' roadway and two 6' sidewalks plus two 25' approach slabs, making a total length of 80'. The cost of this work was \$13,774.32.

#### Route 48

Section 21. Malaga-Elmer, a distance of 6.945 miles was paved with concrete 20' wide and 40' wide at road intersections. The uniform thickness was 8". This work was started on July 8, 1929 and finished on May 17, 1930. It was accepted by the State on May 27, 1930. The final cost was \$256,567.02. This is a part of the Route from the ferries at PennsGrove to Atlantic City, known as the Harding Highway.

Section 22. Downtown-Mays Landing, a distance of 12.877 miles. This consisted of widening the existing 20' Warrenite pavement to a 40' width with bituminous concrete gravel. The work was started on June 13, 1929



and was completed on May 17, 1930. It was accepted by the State on May 27, 1930. Total cost was \$109,236.10 from which the State deducted \$4,880.00 as liquidated damages.

#### Route 49

Section 1. South Dennis--Clermount, a distance of 3.122 miles, was paved with concrete 20' wide by 8" deep. This work started on October 15, 1928 and was completed on September 6, 1930, and was accepted by the State on October 14, 1930. The final cost to the State was \$183,285.18. This section between South Dennis (on old Route 15, now Route 49) and Clermount (on old Route 14, now Route 4) forms the connection from Salem through Millville to the shore Road from Jersey City to Cape May. The work consisted of the elimination of grade crossing over the Pennsylvania Railroad and the paving with concrete of 20' in the center of the roadway and the graveling of the shoulders of the remaining 40' of the roadway.

Section.2. Green Creek-South Dennis, a distance of 2.917 miles, was paved with concrete 20' wide by 8" deep. At the road intersections the width was increased to 40'. The work was started on August 20, 1929 and finished on November 21, 1930. It was accepted by the State on December 22, 1930. The total cost to the State was \$197,828.06. This section extends from South Dennis to Sluice Creek plus the construction of Causeway fills with a gravel surface.

F U N D S

Cash Balance January 1, 1930 \$ 9,269,486.44

Receipts:

Sale of bonds \$20,000,000.00

State Road Tax 2,020,291.75

" " " Sinking

Fund Surplus 2,360,073.46

State Gasoline Tax 10,910,434.62

Motor Vehicle Fees 14,907,268.90

Federal Aid 700,725.00

Interest 918.00

Municipalities Extra Wid-

th etc. 268,966.63

Port of New York Auth. 500,000.00

Permits for openings 1,337.50

Sale of Equipment 1,900.00

Total Receipts 50,861,915.86

Total Funds \$60,131,402.30

Notes:

Total Receipts State

Road Tax 1929 \$ 6,682,044.55

Expense of Bonding

Officials 15,000.00

\$ 6,697,044.55

Less: Sinking Fund &

Interest 4,676,752.80

2,020,291.75



Total Gasoline Tax Re-		
ceipts	\$10,932,094.62	
Less: Expense Collec-		
ting Public Util-		
ity Comm.	<u>3,000,000.00</u>	
		\$10,910,434.62
Total Motor Vehicle Fees		
Certified to the		
Department	\$15,036,784.52	
Less: Appropriations	<u>939,515.62</u>	
Available to Department		14,097,268.90
Disbursements:		
Administration:		
General	\$ 246,086.27	
Laboratory	<u>206,153.61</u>	
		452,239.88
Construction of State		
Highway Roads	\$ 9,712,049.07	
Construction of State		
Highway Bridges	9,952,626.79	
County Re-imbusement		
Roads	935,225.44	
County Re-imbusement		
Bridges	141,257.60	
Detours--Roads	28,625.48	
Tree Planting on State		
Highways	<u>9,594.38</u>	
		\$20,779,381.76

## Engineering and Inspection of State Highways:

Roads	\$ 1,102,419.63
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Bridges	217,641.28
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Advisory Board Projects	352,699.30
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\$ 1,872,760.21

Purchase of Right of Way for Roads	7,360,292.10
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Appraising & Negotiations 317,239.77

Titles	289,396.26
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Condemnations	184,486.29
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791,122.32

## Maintenance of State Highway Roads &amp;

Bridges	2,285,420.15
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### State Aid to Counties, Municipalities and Townships

## County Maintenance &amp;

Reconstruction	\$ 2,727,430.22
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## County &amp; Municipality

Emergency	1,450,301.12
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Township & Boro Con-

struction Aid	1,723,542.56
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Township & Boro Main-

tenance	<u>48,553.21</u>
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\$ 5,949,827.11

## Engineering & Inspection of County &

Municipality projects	186,888.21
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Purchase of Plant and Equipment	129,939.66
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On account of State Department & Muni-

cipality	289,518.91
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Material & Supplies not distributed	\$ <u>2,000.01</u>
	\$39,899,479.32
Less: Depreciation and Interest	<u>98,149.98</u>
Total Disbursements	\$39,801,329.34
Cash Balance December 31, 1930	<u>20,330,072.96</u>
	\$60,131,402.30

1931

Route 1-S                      Sections 13A & 13B. Engelwood Cliffs-Tenafly and Alpine, a distance of 5.212 miles, widening of the existing State Highway on the east side, by the construction of an additional 10' strip of 8" concrete pavement plus a 5' gravel shoulder, plus the extension of drainage facilities. The work was started on June 19, 1930 and accepted by the State on January 6, 1931. This work was let by Bergen County under the Reimbursement Act. The total cost was \$142,633.95.

Section 5. Southwest Side Park, Jersey City. Embankments for bridge approach, forming approaches to 3 bridges already constructed over the highway, and of the making of a fill for landscaping purposes along the sides of the highway. The work was started on April 10, 1931 and was completed on September 29, 1931. Accepted by the State on October 6, 1931. The total cost to the State was \$27,212.47.

Routes 1, 4 & 6              Section 6. Conduit Contract at Christie's Lane to Fort Lee Bridge Plaza. The work under this contract was the construction of a complete underground system of conduits plus pull boxes, pole foundations and transformer pits for the future installation of a street



lighting system and conduit connections to provide for the lighting of directional signs. The work was completed on December 15, 1931. The total cost of the work was \$28,602.85. It was finally accepted by the State on January 26, 1932.

#### Route S-1

Section 2. Route 5 to Hudson Boulevard, a distance of 1.876 miles, was paved with concrete 9" deep and to a width of 30' plus the necessary shoulders to connect with existing improvements. The work was started on December 22, 1930 and was completed on October 6, 1931 and accepted by the State on October 14, 1931. The final cost the the State was \$234,679.95.

A bridge was included in this contract. It was of steel girders encased in concrete and consisted of 2 spans one of 51.5', the other of 49'. The width of the roadway is 50' plus a 5.5' sidewalk. The total length of the structure is 152'. The work was started on May 1, 1931 and finished on October 3, 1931. It was accepted with the road. The finished cost was \$54,249.61.

#### Route 3

Section 4. Market Street, First Avenue, a distance of 3.149 miles was paved with concrete of varying widths to fit existing conditions. These widths were 20', 30', 45', 56.5' and 65'. The right of way was 100' as a result the gravel shoulders varied width from 5' to 15'. The work was started on May 5, 1930 and was finished on June 29, 1931. It was accepted by the State on July 13, 1931. The final cost was \$336,238.11.

Section 3A. Market Street Circle, a length of 0.21 miles was paved with concrete. This was originally part of section 3 which called for a grade separation. Due to the extremely high land values, a traffic circle was designed utilizing existing right of way and that which had been acquired on the easterly side of the intersection. Work on this project started in the early Spring and the entire work was completed in early Summer. The pavement of 9" concrete was carried to the road widths varying from 30' to 70'. Work started on March 18, 1931, and was completed on June 27, 1931. It was accepted by the State on July 13, 1931. The final cost of the work was \$54,818.35.

Section 2. East & West Viaduct approaches to the Hackensack River Bridge, consisting of four Spans on west side and six spans on east side. The structure consists of ten spans of 89.32' each, having a total width of 68.83' and a road width of 50'. The structure consists of plate girders encased in concrete supported on concrete. The work was started on March 10, 1930 and completed on August 27, 1931. Claims were adjusted and the work accepted by the State on December 8, 1931. The final cost was \$412,412.06.

#### Route 4

##### Section 1. Bridge over Raritan River R. R.

A longitudinal beam bridge having a clear span of 28.5' a width of roadway of 30' plus 2 sidewalks one of 6' the other of 11'. The work was started on September 10, 1930



and finished on May 16, 1931. Its cost was \$34,135.24. The State's share of this was 50%.

Section 3. Over-pass Grand Avenue and Broad Avenue. Two bridges. The first of these over Grand Avenue was of concrete encased I beams and consisted of two 34' spans. The width of the road way consists of two 35' roadways plus 2-6' sidewalks. The total length of the job is 74'. The work was started March 13, 1931 and was finished November 12, 1931. Its cost was \$48,688.75.

Section 3. Broad Avenue Over-pass was built by the same contractor. It also consisted of two 34' spans a roadway width of 70' plus two 6' sidewalks. The total length of the job is 74'. The work was started on March 3, 1931, and was ~~xxx~~ finished on November 12, 1931. The cost of the finished job was \$42,097.12. Both of the bridges were accepted by the State on November 24, 1931.

Sections 3 and 4. Hackensack River Bridge was built across the river north of Hackensack. It consists of 8 spans viz. 1 of 88', 2 of 49', 3 of 62' and 2 of 67' making the total length of the structure plus approaches 551'. The width of the roadway is 70' to this is added two sidewalks each 6' wide. The work was started on March 16, 1931 and was finished on October 1, 1931. It was accepted by the State on December 1, 1931. Its cost was \$329,018.74.

Section 4. Four structures, over the N. Y. &

N. J. Railroad. Kinderkamack Road, Coles Brook, Hackensack Avenue, Connecting Road, Fairview Avenue and C. Their cost was as follows:

Over the N. Y. & N. J. R. R.	245'	\$202,906.64
Fairview Avenue underpass	102'	38,078.77
Hackensack Cemetery Road	18'	8,438.85
Hackensack Avenue underpass	145'	<u>64,198.38</u>
		\$313,612.64

These were all accepted by the State on December 1, 1931.

Section 3. Webster Avenue Overpass is a concrete encased I beam structure having a clear span of 43' with a width of roadway of 70' plus two sidewalks each 6' wide. This work was started on April 9, 1931 and finished on October 28, 1931. This was accepted by the State on December 1, 1931. Its finished cost was \$37,086.00.

Section 3. Teaneck Road overpass is a concrete encased I beam with a clear span of 53'. The width of the roadway on one is 60' at the other two of 17'. The work was started on June 22, 1931 and finished October 22, 1931. It was accepted by the State on November 17, 1931. The cost of the finished work was \$43,707.58.

#### Route 5

Section 7. Edgewater Avenue to Palisade Avenue, in Ridgefield. Palisade Park and Fort Lee was widened for a distance of 1.292 miles by the County of Bergen under the Reimbursement Act. The work consisted of widening by the addition of a 10' strip to the existing pavement from Edgewater Avenue to Palisade Avenue. The



work was started on June 3, 1931 and finished on September 28, 1931. Its cost was \$25,774.80. The County was re-imburshed by the State for its expenditure on January.

#### Route 6

Section 3. Six bridges were built on this section in Palisade Park, over Homestead Avenue; East Brinkerhoff Avenue; East Central Boulevard; East Palisades Boulevard; East Edsall Boulevard and Oakdene Avenue. The spans as follows were: 50' for Homestead and Oakdene Avenues, 75' for East Brinkerhoff Avenue, East Central Avenue, East Palisades and East Edsall Avenue. The overall width for each was 75'. The roadway width was 60' above and 30' below for Homestead and Oakdene Avenues, 60' above and 40' below for E. Brinkerhoff Avenue, East Central Avenue, East Palisades Avenue and East Edsall Avenue. These were all of structural steel girders encased in concrete. These were all single span bridges over intersecting roads. Work was started on these on September 16, 1929 and finished on October 14, 1930 and accepted by the State on October 28, 1930. Payment was not ordered until January 10, 1931. The total cost of the work was \$355,479.87.

#### Route 8

Section 3. Through Blairstown to Wood/pecker Point, a distance of 0.951 miles was paved with concrete 20' wide by 9" and finished with gravel shoulders bituminously treated and 6" to 9" deep. The work was started on September 30, 1929 and was finished on June 1, 1931.

Accepted by the State on August 24, 1931. The total cost to the State was \$83,101.96. This is a short section of road over new right of way along the southerly side of Blairstown. It connects that portion of Route #8 at Woodpecker Point, just west of Blairstown with the approach to the new bridge over Paulins Kill and the Susquehanna Railroad, east of Blairstown.

Section 6. Bridges and approaches over the N. Y. S. and W. R. R. and Paulins Kill. The contract for the construction of this job was let in December 1930 and work was carried on all winter and the work was completed on August 19, 1931. About one-half of the cost was for the two bridges, one over the N. Y. S. & W. R. R. and the other over the Paulins Kill. The bulk of the roadwork was the construction of heavy embankments having a maximum depth of over 30'. An additional advantage of this project is that it eliminates a dangerous railroad grade crossing in Blairstown and completes the improved pavement to Newton.

The length of this improvement is 0.433 miles and the pavement is of concrete 20' and 40' wide by 9" deep. The total cost to the State was \$103,249.34. It was accepted by the State on October 6, 1931. In addition to the bridges described were two others, one over the N. Y. S. & W. R. R. having a span of 83.58' and having a roadway 40' wide; the total length of the structure was 95.42'. This work was started on January 14, 1931, and was finished on August 17, 1931. The cost was



\$58,450.99. The other bridge was over Paulins Kill and consisted of three spans each 42.82' long. The width of the roadway was 40'. The total length of the structure was 233.58'. Its cost was \$36,979.23. The work was finished on August 13, 1931. All of this work was accepted by the State on October 6, 1931.

Section 4. Delaware, Columbia, a distance of 2.63 miles. This section begins at a point on State Highway #6, near the toll bridge in the village of Delaware and runs along the shore of the Delaware River to the free bridge in Columbia. Most of the line is over an abandoned railroad right of way along the River and in order to obtain a forty foot graded width at this location, it was necessary to make maximum rock cuts of nearly 70' in height, and lower the grade of the old railroad bed about 12'. The rock is slate and limestone and when excavated in large pieces, it is excellent material to form the embankment along the River, where a heavy wash will be encountered during high water. The pavement was of concrete 20' and 40' wide by 9" deep. The road was graded 40' wide. Through the village of Columbia, a temporary gravel surface was placed on the road for a distance of 1,550'. The work was completed on November 13, 1931 and was accepted by the State on December 1, 1931. The total cost was \$95,399.35.

Route 10

Section A & B. Jersey City, Contract #24.  
Hackensack River Bridge and paving of East approach,

in the City of Jersey City and Town of Kearney. The length of the project is 0.544 miles. The original contractor abandoned the job on November 6, 1930 and his bondment, the U. S. Fidelity & Guaranty Company took over the work and finished it on February 3, 1931. The Commission accepted the work withholding 125% of the value of the work remaining to be done. On February 3, 1931 the Commission approved the payment of the sum of \$1,368,567.12 and held the remainder due until the claims against the contractors were satisfied. This remainder amounted to \$20,842.10. Final official acceptance of this work was made by the State on October 18, 1932.

Route 10

Section B. Hackensack Bridge Removal. Accepted by the State on July 7, 1931. The cost to the State was \$85,400.00.

Section 1. Hanover-Whippany, the length of 3.22 miles was paved with concrete 30' and 50' wide by 9" deep. Work started on January 20, 1931, and it was finished on November 21, 1931 and accepted by the State on December 1, 1931. The cost to the State was \$234,902.43. The progress was delayed by actions of the property owners. One house on the center line of the highway was not removed until November and at this point a temporary macadam was placed. This section crosses a low lying swampy section and it was necessary in several places to remove swampy material.

Route 21

Section 5. Chester Avenue-Belleville Bridge,



a distance of 1.234 miles. The work starts at a point north of Chester Avenue and runs to Belleville Turnpike, a distance of 1.234 miles. The pavement is of concrete 40' and 50' wide by 9" deep. The graded width is 60' to 100'. The work was started on July 12, 1929 and was done finally on August 20, 1931. The cost of the paving section was \$193,992.67. It was accepted by the State on October 6, 1931.

A bridge having a span of 45' was built over Second River. The width of the roadway was 70' plus 2 sidewalks each 15' wide, making the total width of the structure 100'. The structure is a re-inforced concrete slab paved with asphalt blocks. The work was started on July 12, 1929 and finished on August 20, 1931 accepted by the State on October 6, 1931. The cost of the completed structure was \$54,942.07.

#### Route 22

Section 1. Lincoln Avenue from North Avenue to South Avenue, Garwood, a distance of 0.147 miles was paved with concrete 55' wide by 9" deep and graded to a width of 66'. The work was started on April 6, 1931 and finished on August 1, 1931 and was accepted by the State on August 10, 1931. The cost of this job was \$25,218.86.

A slab culvert 115' long with a clear span of 17' was built as part of the road job. It was started on April 6, 1931 and finished on June 21, 1931 and ac-

cepted by the State August 1, 1935. The total cost of this was \$7,491.94.

#### Route 23

Sections 6A, 7A & 7B. N. Y. S. & W. R. R. Bridge approaches at Oak Ridge and Beaver Lake. The length of this section is 0.584 miles long. It was paved with concrete 8" deep except over bad bottom where it was increased to 10". These are short lengths of pavement that were omitted from the completed portion of Route 23.

Sections 6A & 7A are at the new location of bridges over the N. Y. S. & W. R. R. at Oak Ridge and at Beaver Lake. Section 7B is a short stretch near A that was covered with a temporary, because of the initial subsidence of the heavy embankment during previous construction at this point. Grading operations started on Section 7A, February 25, 1931. It progressed slowly, partly due to the construction of the bridge over the railroad and partly due to the heavy traffic. The first pavement was laid July 13, 1931. Grading was started on Section 7B on July 18, 1931 and paving started on July 29, 1931. Paving on Sections 7A & 7B was completed August 24, 1931. The work was completed on September 19, 1931. The adjusted cost to the State was \$41,187.00.

#### Route S-25

Section 25. Burlington Bridge approach, 0.453 miles long, was paved with concrete 20' wide by 9" deep. This is a spur of Route 25 constructed as an approach to connect Route 25 to the Bristol Burlington



Bridge over the Delaware River and ends at the bridge plaza. It carried the bulk of the traffic crossing the bridge. The work was started on July 31, 1930 and finished on May 2, 1931 and was accepted by the State June 2, 1931. The cost of the finished work was \$52, \$52,554.83. A drainage canal was dug by the same contractor to extend the cities drainage system. This cost the State \$4,986.02. This work was accepted by the State on June 2, 1931.

#### Route 25

Sections 18 and 19. East Jersey Street-Grove Street, Elizabeth, a distance of 0.524 miles. This work consists of the construction of a viaduct, some of the spans being steel, others concrete, approach fill with retaining walls, the placing of granite block asphalt and bituminous concrete pavement and other incidental work plus three crossings of the Elizabeth River. The curb to curb width throughout is 48.5'. The work was started on August 4, 1929 and was completed on July 9, 1930 and was accepted by the State on July 22, 1930. The final cost to the State was \$766,809.24.

Sections 5 & 6. Connecting Link from easterly side of Jacobus Avenue, Kearney to westerly side of the Passaic River. The work is for the construction of concrete piers and pier bases extending down to rock. The work was started on May 6, 1930 and was completed on March 4, 1931 and was accepted by the State on March 10, 1931. Its cost was \$1,479,224.36.

Sections 3 and 6. Connecting Link, Fenders-Hackensack and Passaic Rivers. This work consisted of timber sheeting, cribbing and piling for the protection of these two bridges. The work was started on January 3, 1931 and finished on April 30, 1931. The final cost was \$64,937.79. The work was accepted by the State on April 30, 1931.

Section 8B. Edgar Road from Wood Avenue to Elizabeth City Line. A distance of 1.682 miles. The pavement is of double line reinforced concrete 10" thick except over culverts where it is increased to 12". The width of the pavement varies from 40' to 60'. The work was started on April 15, 1930 and was completed on May 16, 1931 and was accepted by the State on June 16, 1931. The final cost to the State was \$261,335.90. The same contractor also built a bridge over Peach Orchard Brook and 2 culverts. These were started on May 1, 1930 and finished on August 15, 1930, and accepted on June 16, 1931. The cost of these were \$12,427.90.

Sections 3 and 4. Connecting Link, Foundations and Embankment for ramp in the City of Jersey City and Town of Kearney. The length of this project is 0.955 miles and consists of 16 piers at 315' average spacing. The work was started on April 22, 1930 and was completed on June 22, 1931 and accepted by the State on June 30, 1931. The final cost of the job was \$3,200,229.27.

Section 8. Connecting Link, in City of Newark is 0.390 miles long, is an earth embankment of 34,770



cubic yards. This was started on April 29, 1931 and finished on July 19, 1931, and accepted by the State at that time. The total cost to the State was \$21,409.70.

Sections 19 and 20. Paving of side roads in the City of Elizabeth for a length of 0.795 miles. The pavement was of asphaltic concrete laid 2" deep on a 6" concrete base. This work was started on May 25, 1931 and finished and was completed and accepted by the State on July 31, 1931. The final cost was \$50,977.35.

Sections 6A, 5A & 4B. Route 4-Rahway-Branbury Turnpike, Widening, a distance of 11.711 miles, is a widening job from the Clover Leaf at Woodbridge to the Cranbury Turnpike, with a 10.5' concrete strip and a 5' rebuilt gravel shoulder on the southeasterly side of the road; also the paving and curbing of the bridge approaches at the Port Reading Railroad and the Lehigh Valley Railroad. The work was started on August 21, 1931 and was completed on November 21, 1931. Included in the contract was the raising of some sunken slabs of existing concrete. The work was accepted by the State on November 24, 1931. Its cost was \$170,385.51. Included in the contract were two 20' culvert extensions on 5A at Stations 40+73 and 66+07 and two 15' culvert extensions on Section 4B at Station 123+80 and 209+50.

Section 2. This job consists of the construction of viaduct foundations on concrete piling, embankment, and other incidental work. The work starts from the Pennsylvania Railroad in Jersey City and runs to a

curb to curb, a width of 60'. The pavement consisted of bituminous concrete 3" deep laid on a concrete base 8" deep. This job was the widening and repaving that portion of North Broad Street in the City of Elizabeth, which is a part of State Highway Route #27. The plans were made, the contract was let and the Engineering Supervision was done by the City, with State Highway Department Inspection. The State Highway Commission set up a fixed allotment as its share of the cost. The cost of the entire job was \$77,428.81. The State's allotment was \$60,000.00.

#### Route S-28

Section 1. Weston's Mills-Farmers Corner, a distance of 2.896 miles, starting on the existing road at Weston's Mills, the alignment, to cut-off a sharp turn, is carried over a new right of way for 2500' and thence over the present road, reducing the curves, for 5800' to a grade crossing of a single track service branch of the Raritan River Railroad. From this point the road was carried over a new alignment in order to avoid the numerous sharp curves in the old road and to by-pass the congested area at Tanner's Corner. As a result, the amend contract was finished on December 21, 1931 and was accepted by the State on December 29, 1931. The cost was \$166,899.29. In addition the other work 2 underpasses were built for the accommodation of the clay pits. The cost of these was \$16,754.72. These were also accepted with the road.

#### Route 29

Section 4. Mountainside to Somerset County



Line, a distance of 4.327 miles was paved with concrete 30' wide on the main line and widens to 40' at intersections. Its depth is 9". The road was graded to 56' and 66' in width. The work was started on September 9, 1929 and finished on October 25, 1930. It was finally accepted on November 25, 1930 by the State. The total cost to the State was \$451,403.41. It was finally ordered paid on February 28, 1931 when claims were settled.

# Route 30

Section 8. Clinton-Musconetcong River, a distance of 5.273 miles was paved with concrete, 20' on the main section and widened at intersections to 56'. Its uniform depth is 9". The work was started on April 21, 1930 and was finished on November 16, 1931. The cost of the road was \$528,537.73. It was accepted by the State on November 17, 1931. In addition to the pavement one 72' bridge and 5 small bridges were built by the road contractors. The total final cost of these was \$59,391.45. These bridges were as follows:

Station 742+46	concrete arch 27'	\$11,351.80
" 778+20	concrete slab 18'	7,097.88
" 824+50	I beams & concrete slab	20,665.26
" 852+51	I " & " "	9,884.31
" 864+70	Concrete 10' "	3,116.80
" 896+29	" slab 10' "	<u>4,275.40</u>
Total		\$59,391.45

The above section runs from the existing concrete pavement north of Clinton. It is built partly over existing right of way which has been widened to 80' and partly over new right of way 80' in width and by-passes the

main built up section of Glen Gardner and the Borough of Hampton. The course of Spruce Run was changed in order to secure sufficient room for the highway through the Glen at Glen Gardner.

#### Route 30

Section 9. Musconetcong River-Oxford, a distance of 6.963 miles was paved with concrete 20' wide by 9" deep except at intersections where the width was increased 56'. The work was started on April 28, 1930 and finished on August 24, 1931. This section extends from the Musconetcong River to the top of Oxford Mountain, just east of the town proper. It is practically all over new right of way, 80' in width, very little of the existing road being used, six bridges were included in this job. Two railroad crossings on the D. L. & W. R. R. have been eliminated under separate contracts. The concrete pavement is 20' wide with 10' slag shoulders, except through the Borough of Washington where it was widened to 56'. A traffic circle was added to this contract at its intersection of this Route with Route 24 in Washington. The total cost of this work was \$677,794.51. The pavement was all finished except that under the Railroad in Washington. This was finished and accepted on March 1, 1932. Six bridges were built by another contractor, they were all small and their total cost was \$43,541.39.

Sections 8 and 9. Bridge over the Musconetcong River, consisting of 3 spans each 38.9' to this is added the roadway embankment and pavement, making the total



length of the work 888'. Its cost was paid by the State on November 10, 1931, \$48,919.73.

Route 31

Section 6. Gladstone-Bedminster, a distance of 3.875 miles was paved with concrete to a width of 20' and 9" deep and the shoulders were paved with local broken stone. This work was started on November 12, 1929 and was completed on May 1, 1931 and was accepted by the State on May 18, 1931. The final cost of the road to the State was \$343,532.47 and the final adjusted cost of the bridges was \$11,369.00 or the total of \$354,901.47. The work on the two bridges was completed on May 1, 1930. The total cost was given above. The two bridges were box culverts 4' by 3' having a length of 108' and 105' respectively.

Section 3. A bridge was built over the D. L. & W. R. R. at Netcong, having a clear span of 48'. It was of concrete I beam construction. The width of the roadway is 40' plus two 6' sidewalks. The total length of the structure is 53'. The work was started on April 20, 1931 and was finished on August 20, 1931. The total cost to the State was \$34,230.67. One half of which was paid by the D. L. & W. R. R.

Route S-31

Section 1. Culver's Lake-Hainesville, a distance of 7.268 miles was paved with concrete 20' wide by 9" deep. The width was increased to 40' at intersections. The work was started on October 14, 1929 and was finished on June 12, 1931. It was accepted by the State on June 22, 1931. The final cost of the pavement was \$599,329.54.

Included in this contract were 7 bridges; these were all accepted with the road on June 22, 1931. The finished cost of these 7 bridges was \$69,752.17. This work starts at the end of the old concrete pavement at the south end of Culver's Lake and runs northerly to Hainesville. The new alignment follows the old road through Culver's Gap to Kittatinny Lake and from there, the line runs northerly over the mountain following the general line of the old turnpike. The new line connects with the present macadam road from Layton to the bridge over the Delaware River at Milford, Pa., thus saving a distance of 1.5 miles over the old route. The size of the task may be had from the fact that the grading alone cost over \$140,000.00.

#### Route 34

Section 2. Holmdel-Colt's Neck, a distance of 4.18 miles was paved with concrete 20' wide by 9" deep except at intersections and drainage points where it was widened from to a width of from 30' to 50'. The work was started on May 13, 1930 and finished on May 26, 1931. It was accepted by the State June 2, 1931. The contractor also built four bridges that were needed on this job. The work was accepted by the State on June 2, 1931. The total final cost was \$286,123.75. Three bridges were built over Big Brook, Yellow Brook and Mine Brook at a total cost of \$49,467.27. These were accepted with the road.

Section 3. Colt's Neck to Route 33, a distance of 4.563 miles was paved with concrete 20' wide by 9" deep widen at intersections to 50' the whole finished with gravel shoulders each 15' wide. The construction was started on July 19, 1930 and completed on July 9, 1931. It was



accepted by the State on July 20, 1931. Its cost was \$248,134.19. This was a difficult section to work on due to the fact that 3 miles of it was through woods and also due to the surface water encountered. The roadway was built 50' wide with a 20' strip of concrete, flanked by two 15' gravel shoulders. At both ends and at the Asbury Avenue intersection, extra width was provided for safety.

#### Route 39

Section 8. Indian Mills-Great Swamp, a distance of 6.193 miles was paved with concrete 20' wide by 8" and 10" inches deep. The work was started on August 20, 1929 and finished September 25, 1930 and accepted by the State November 17, 1930 but owing to a number claims filed, the amount due was not certified for payment until March 17, 1931. When the whole amount of \$327,608.15 was certified to the Comptroller.

#### Route 40

Section 5. Red Lion to Buddtown-Four Mile Road a distance of 7.803 miles was paved with concrete 20' wide by 8" deep. This work was started on March 6, 1931 and completed December 18, 1931 and accepted by the State on December 29, 1931. The cost of the finished work was \$381,781.52. Two small bridges were built at Stations 1196 and 1201+45. This section covers the construction of a concrete highway from Red Lion to the Buddtown-Four Mile Road. A traffic circle located at the intersection of Route #40 and Route #39 protects against traffic crossing from Bordentown to the White Horse Pike.

Section 6. Is another portion of the new highway from the Delaware River bridge to the seashore points

Its length is 7.167 miles and will when completed form an important link in this through line. At the present time it is 67.43% completed.

**Route S-41**

Section 1. Hilton Road to Kings Highway, a distance of 4.64 miles was paved with concrete 30' and 56' wide by 9" deep. The work was started on July 3, 1929 and was finally completed on July 22, 1931. The total cost of the work to the State was \$667,799.15. The cost of this work was \$667,799.15. The work was accepted by the State on October 7, 1931.

Section 1-A. Palmyra Bridge Plaza, a distance of 1.107 miles. The section covers the construction of a concrete pavement from Hilton Road to Kings Highway, except for four gaps left unpaved due to anticipated settlement. This has been made and the deferred paving will be done under contract. Route S-41, Section 1-B given along with Route 38, Section 1.

Section 1-A. Palmyra Bridge Plaza to Hilton Road, a distance of 1.107 miles was paved with concrete. This was paved to various widths in order to complete the work. These widths were 30', 50' and 56', the uniform depth was 9". This is the first section of the highway leading from the Tacony-Palmyra bridge to the White Horse Pike at Berlin. It will carry the traffic from Pennsylvania across the Palmyra Bridge to all points in New Jersey. The final cost was \$134,772.82. This section was built as a cut-off, by-passing the built up section of Palmyra.

Section 4. Cooper Road-White Horse Pike, a



length of 4.111 miles was paved with concrete to the following widths viz. 20', 30', 38' and 40' and a uniform depth of 9". This is the last section linking the Palmyra Bridge to the White Horse Pike at Berlin. On this job a traffic circle was constructed for the purpose of distributing the traffic destined for Camden, Berlin and points north and south of the main route. At the connection of this route with Route 43, a one-way cross over and ramp connection to Route 43 and other connecting roads was built. The work was started on September 29, 1930 and finished on August 14, 1931 and accepted by the State. The completed cost was \$284,037.71. A bridge was built over the White Horse Pike and was built by a separate contractor. This consisted of 2,10' and one 46' span with the approaches giving a total length of 76'. The structure consisted concrete encased girders, the width of the roadway is 20' with two sidewalks each 1.58'. The work was started on May 4, 1931 and finished on July 30, 1931 and accepted by the State on August 24, 1931. Its final cost to the State was \$22,938.45.

#### Route 42

Section 5. Gloucester County Line to Weymouth, a distance of 6.067 miles was paved with concrete 20' and 30' and 40' wide by 8" deep. The work was started on January 28, 1931 and finished on September 10, 1931 and accepted by the State October 14, 1931. Its completed cost was \$475,844.14. This section from the Gloucester County Line to Weymouth covers what is known as the Black Horse Pike. This is a portion of the relief route for the White Horse Pike, from Camden to Atlantic City and other shore

points. A bridge was built over Hospitality branch having a two span concrete slab top of 46' and a roadway of 56'. The cost of this structure was \$20,726.63. It was completed on December 7, 1931. A bridge was built over the Atlantic City Railroad at Folsom having a total length of 145'. The structure was I beams encased in concrete and was composed of two spans of 24', two of 23' and one of 37'. The width of the roadway is 56' plus two 6' sidewalks. The total cost of the structure is \$46,910.23. One half of this is the State's share. Two small bridges were built by the road contractor.

#### Route 42

Section 6. Great Egg Harbor River Bridge, having a clear span of two 35' sections and a roadway width of 56', was built of concrete encased I beams plus concrete approach slabs giving a total length of 77'. This work was started on May 5, 1931 and finished on October 21, 1931. The final cost to the State \$29,424.64. It was accepted by the State on

Section 8. Two small culverts were built over this section, one over Indian Branch composed of two 5' spans and a roadway width of 56' was started on March 9, 1931 and finished on April 24, 1931 at a cost of \$2,714. The other over Hubbards Brook of the same dimensions was started on March 9, 1931 and finished April 2, 1931. Its cost was \$3,342.64.

Section 6. A bridge was built over Little Mill Stream consisting of two 17' spans covered with a concrete slab giving a roadway 56' wide. The total length of the



project was 39'. The work was started on March 23, 1931 and finished on October 21, 1931. Its final cost was \$10,901.00. Another bridge on the same section was built over Big Ditch on the same size. The cost was \$10,088.50. This was finished on October 20, 1931. Also one over Babcock's Creek of the same size was started on May 18, 1931 and finished on October 20, 1931. Its cost to the State was \$11,302.00. A double box culvert was also built on the same section. It consisted of two 5' spans giving a roadway width of 56'. Its cost was \$2,767.44. This was finished on October 20, 1931.

#### Route 47

Section 4. Bridge over Reading Railroad at Tuckahoe consists of 5 spans viz. 1 span 51.80 and 4 spans 29.08 each making the overall length of the structure 228'. The work was started on July 21, 1930 and was finished on December 11, 1930 and accepted December 22, 1930. Final acceptance by the State January 16, 1931. Total final cost was \$45,823.51.

Sections 1A & 2A. Heestown to Hunters Mill, gaps only of 4.795 miles was paved with concrete 20' wide by 8" deep. The work was started on March 20, 1931 and was finished on July 15, 1931. It was accepted by the State on August 3, 1931. The final cost of the job was \$142,309.88. The paving of this section provides a hard surface via Tuckahoe between Pennsgrove and all the shore points on to Cape May County.

Section 3A. Hunters Mill to Head of River, a distance of 3.56 miles was paved with concrete 20' wide

by 8" deep. This work was started on April 7, 1931 and finished and accepted by the State August 3, 1931. Its cost \$107,641.38.

Route 48

Section 24. McKee City-Tilton Road, a distance of 4.761 miles was paved with concrete 20' wide by 8" deep. The work was started January 27, 1931 and finished on July 25, 1931 and was accepted by the State on August 10, 1931. Its total cost was \$188,680.13. This improvement consisted of the construction of an additional 20' concrete pavement built parallel to the existing 20' warrenite pavement, providing a double roadway throughout its length with a 20' gravel strip between pavements. This is the first double roadway, providing a separation of traffic in South Jersey.

Route S-49

Section 3. Goshen- Sluice Creek, a distance of 2.30 miles was paved with concrete 20' wide by 8" deep. This work was done by Frison Labor operating from the Prison Farm at Leesville. The work was started on October 24, 1930 and finished on August 4, 1931 and accepted by the the State on August 24, 1931. Its cost was \$106,412.10.



TOTAL ASSETS & LIABILITIES

Assets

Final Balance for unpaid Com:	December 31, 1930	December 31, 1931
	\$ 17,973,868.37	\$ 18,070,868.79
Federal Aid	1,234,595.64	4,035,779.38
Due from Surplus Revenue of Bridge & Tunnel Commission	2,200,000.00	2,200,000.00
Interest to Dec. 31, 1930	303,178.39	
Interest to Dec. 31, 1931		391,178.39
Undistributed Material	130,063.03	148,651.35
Due from Sinking Fund	2,386,206.09	1,656,206.09
Plant & Equipment	<u>671,980.70</u>	<u>675,451.27</u>
	\$ 27,205,374.80	\$ 27,134,484.68

Liabilities

Contracts - Roads	\$ 5,995,057.99	\$ 4,175,834.70
Contracts - Bridges	8,578,818.00	9,373,093.67
County Reimbursement	300,000.00	264,517.56
Purchase of Right of Way	8,051,636.15	8,075,558.04
Detours - Roads	12,340.59	3,741.25
Treeplanting & Roadside Beau.	423.15	2,385.00
Balance for 1931 Program		548,000.00
Allotment to Counties Main.	637,579.37	757,908.87
Allotment to " Const.		263,149.84
Allotment to " Reserve	788,608.95	416,956.62
Allotment to Twp. Construction	937,571.88	1,330,381.44
Allotment to Twp. Maintenance	161,446.79	251,721.63
Allotment to Reconstruction Right of Way	6,951.18	6,951.18
Allotment to Purchase of Plant & equipment	105,047.46	109,519.08

Allotment to Maintenance of State Highway	\$ 55,940.74	\$ 356,668.48
Allotment to Emergency Relief		70,000.00
Allotment to Passaic County, Paterson & Hamburg Turnpike	59,966.49	
State Aid Appropriation Chap. 395, P. L. 1912	35,409.20	35,409.20
Surplus Invested Plant & Equip.	671,989.70	675,451.27
Appropriations, Board of Com- merce and Navigation	90,000.00	
Balance available	<u>686,605.17</u>	<u>416,426.17</u>
	\$ 27,205,374.50	\$ 27,134,484.68

Analysis of Balance Available:

State Highway System	\$ 663,984.48	\$ 416,426.17
Motor Vehicle Fund Reserve	<u>22,520.69</u>	<u></u>
	\$ 686,605.17	\$ 416,426.17



1932

Route 1                      Section 13C. Alpine to Point Lookout Cut-off, a distance of 1.96 (1.96) miles, was paved with concrete on the west side of the existing concrete pavement from Alpine Ferry Road to Point Lookout Cut-off. This pavement was 10' wide by 8" deep and was backed by a gravel shoulder 5' wide. This was a county reimbursement job, and though finished on December 15, 1931 was not accepted by the State until January 5, 1932. Its cost was \$39,779.58.

Routes 1, 4 & 6              Section 6. Christies Lane to George Washington Bridge Plaza in the Borough of Fort Lee; a distance of 0.978 miles. The widths paved from 20' to 340' and to a depth of 10". This outstanding project is located at the westerly terminus of the bridge. It consists of a very elaborate system of roadways and ramps separating the various State Highways and the local streets in the Borough of Fort Lee providing complete elimination of interference between through bridge traffic and local traffic. The work was started on September 5, 1930 and included the complete grading and paving of the plaza, constructing a viaduct 500' in length and also the construction of 6 over-passes and 6 underpasses structures.

These were:

Overpass bridges: Main Street, Jones Road, County Road, Route 4 East Bound (Viaduct) & Public Service Railway.

Underpass structures: Fletcher Avenue (3 bridges) Linwood Avenue, Center Avenue and Lemoine Avenue. The work was accepted by the State on January 26, 1932. The total cost of the road was \$1,063,222.72. That of the nine bridges was \$734,315.44.

#### Route 1

Cut-off. Borough of Alpine, Sylvan Boulevard Point Lookout to bypass through traffic from Point Lookout Section of Route 1. This road was improved by the County of Bergen and it was later taken over and paid for by the State. The improvement was started on May 25, 1931 and was completed on April 12, 1932 and was accepted by the State on June 7, 1932. Its cost was \$181,809.50.

Section 7. Fort Lee, Myrtle Avenue, Palisade Avenue, Englewood Cliffs, a distance of 2.154 miles. A greater part of the work required by the contract for the construction of this work was completed in 1931. Unavoidable delays postponed its completion until June 30, 1932 and it was accepted by the State on July 18, 1932. Its final cost was \$326,774.86. This section forms a portion of the north and south approaches along the Hudson River to the George Washington Bridge.

Section 6. Fletcher Avenue to Lemoine Avenue, a distance of 0.678 miles was paved with concrete of variable widths and a uniform depth of 10". The work was



started on March 19, 1931 and completed on September 23, 1932. It was accepted by the State on October 3, 1932. The final cost to the State of the revised contract was \$265,064.97.

Two bridges, one over the Public Service Railway, having a clear span of two 33' sections with a 56' roadway and two 6' sidewalks. This was finished and accepted on October 3, 1932. Its final cost was \$33,995.43.

The other one over Lemoine Avenue with a 49' span \$17,944.49. Both of these bridges were accepted by the State on October 3, 1932.

#### Route S-1

Section 1. Bridge over Route 5 and Columbia Avenue consists of 7 spans giving 326' overall length with a roadway 50' wide and two 6' sidewalks. The work was started on May 5, 1931 and was finished on December 14, 1931. Its final adjusted cost was \$108,720.85. It was accepted by the State on January 11, 1932. From Route 6 to Route 5, this section having a length of 1.14 miles was paved with concrete 30' wide by 9" deep. This is a section over a new right of way from Fort Lee Borough to Palisade Park and was completed in 1931 except for the items of top solinig, fertilizing and seeding. The paving and shoulders were completed December 30, 1931 and opened to traffic on January 15, 1932. The landscape work was finished on May 31, 1932 and was accepted by the State on June 14, 1932. The completed cost was \$142,187.26.

#### Route 2

Section 6. Overpass at Route 4, Paramus, consists of two spans, oye of 43.19', the other of 48.27'

over Route 4 with a roadway 68' wide separated by a 3' island plus 2 sidewalks each 6' wide. The work was started on July 15, 1931, was completed and accepted by the State on April 26, 1932. The final cost to the State was \$55,098.75.

Section 6. Two bridges were built by one contractor, one over Central Avenue having a clear span of 52' with a roadway 60' wide plus 2 sidewalks each 6' wide. The total length of the structure was 57'. The work was started on September 21, 1931 and accepted by the State on March 31, 1932. Its cost was \$32,836.43. The other over Terrace Avenue has 2 spans of 70' and a roadway 34' wide plus 2 sidewalks of 6' each. The total length of the structure is 154'. This work was started on September 29, 1931 and was accepted by the State on March 31, 1932. The final cost of this to the State was \$54,660.02.

Two more bridges were built on Route 2, the first at Essex Street has a clear span of 72' and consists of concrete encased girders giving a clear roadway of 40' plus two 6' sidewalks. The total length is 78'. The work on this was started on October 21, 1931. It was finished on September 20, 1932 and accepted by the State on October 3, 1932. Its final cost was \$57,438.82. The other was over Passaic Street having a clear span of 48' with a roadway of 50' plus two 6' sidewalks overall length 53'. This was started September 9, 1931 and finished April 14, 1932 and accepted by the State October 3, 1931. Its ~~XX~~ cost was \$34,202.39.



## Route 2

Section 6. A bridge was built of encased through plate girders having a clear span of 93' over the tracks of the Hudson River Traction Company and Pleasant Avenue. The width of its roadway was 50' plus 2-6' sidewalks. The total length of the project is 101'. The work was started on April 7, 1932 and was finished by another contractor on September 15, 1932. The cost was \$49,756.08.

Another bridge was built on this section at Station 30+45. It is of encased I beam construction and consists of two 60' spans, with a roadway 40' wide, plus two 6' sidewalks. Total length of the structure is 132'. The work was started on July 13, 1931, and completed on April 14, 1932. The adjusted contract price was \$42,908.78. This is an overpass of the boulevard.

Another underpass was built on this section over Fairview Avenue. It was of concrete encased girders and floor beams. Its clear span is 96'; the roadway is 30' wide plus two 6' sidewalks. The total length of this structure plus concrete approach slab is 103'. The work was started on November 4, 1931 and finished on August 8, 1932. It was accepted by the State on August 22, 1932. Its finished cost to the State was \$41,364.54.

## Route 3

Section 1A. Route #1 to Secaucus, a distance of 1.583 miles, was paved with concrete to the following widths viz. 40', 50' and 56' and a uniform depth of 9". This work extends from Route #1 to a point just west of

of the Paterson Plank Road in Secaucus. The work was started on May 1, 1931 and completed July 28, 1932. The finished work was accepted by the State August 15, 1932. The cost of the road work was \$269,600.42. A bridge was built over Penhorn Creek on this job having a clear span of 27' with a roadway width of 50' plus two 6' sidewalks. This work was started on June 1, 1931 and finished December 14, 1931. It was accepted by the State on August 15, 1932. The cost of the finished structure was \$32,081.99.

Section 2C. Paterson Plank Road, Secaucus, a length of 345' was paved with bituminous concrete in order to complete the work to the bridge over the Hackensack River. The work was completed and accepted by the State November 7, 1932. The finished cost was \$6,125.20.

#### Route 3-3

Section 2. Erie R.R., Allwood Station to Hepburn Road, a distance of 0.812 miles was paved with concrete to the full width of the roadway that is from 56' to 76' and a depth of 9" with concrete. The entire width of 100' was graded. The work was started on July 18, 1931 and was completed on May 23, 1932 and accepted by the State May 31, 1932. Its cost was \$118,217.61.

#### Route 4

Section 3. Five bridges were built on this section, the first was the River Road overpass of concrete encased girders and having a clear span of 52' with a 70' roadway and two 6' sidewalks. Its total length was 56'. Its cost \$86,879.85. The second 2750' beyond, under



Garrison Avenue, was of concrete encased girders, its span was 101' (columns at curb lines). The width of the roadway is 36' plus two 6' sidewalks. The total length of the structure is 104'. Its cost \$32,682.55. The third is the Queen Avenue Road overpass 2000' beyond. It is a concrete encased I beam structure having a clear span of 53', a roadway of 65' wide plus two 6' sidewalks. Its total length is 56' and its final cost was \$37,167.70. The fourth, the Margaret Street Underpass, having a clear span of 86', a roadway width of 30' plus two 6' sidewalks and an overall length of 91'. The work on this was started March 20, 1931, and finished on January 1932. This was accepted by the State on January 26, 1932. Its cost was \$27,153.30. The fifth and last was built as an overpass across Lafayette Avenue. It has a clear span of 54'. Its roadway consists of two 40' roads plus a 3' center isle and finished with two 6' sidewalks. The work was started on March 20, 1931 and finished in January 1932 and accepted with the others on January 26, 1932. Its finished cost was \$71,638.75. These several amounts were adjusted so that the total paid by the State on these contracts was \$256,460.01.

#### Route 4

##### Section 7. Passaic River Bridge and approaches.

The bridge work was started on September 23, 1930 and was finished on January 14, 1932. The main work was finished on December 23, 1931. The pavement was of concrete of various widths to fill in the vacant spaces in the paving. The depth of the concrete as laid is 9".

As the road and bridge contractor was one, there was no interference between the road and bridge work. The cost of the bridge work was \$391,126.92. The two jobs were treated as one and were so managed. The road and bridge were accepted as one by the State on January 11, 1932.

Section 4. Arcola to Hackensack River, a distance of 4.147 miles lies on the main Highway to the George Washington Bridge. This section begins at the easterly end of the traffic circle at Arcola and extends over new right of way through the Borough of Paramus, passing over Saddle River and Spout Brook, under Route #2 by grade separation, under Fairview Avenue, crossing Spring Valley Road at grade, over VanSaun Mill Brook in the Borough of Riveredge, where there are three grade crossings with intersecting streets, then over Coles Brook, Kinderkamack Road Relocation and the Erie Railroad to underpass Tackensack Avenue by grade separation, ending at the westerly bank of the Hackensack River. The graded width of the highway is 100' slopes being outside of this limit. The concrete pavement is 40' in width, except at Arcola, Route 2 Separation and from VanSaun Mill Brook to the Hackensack River where the width is 70'. Stone shoulders and sidewalks areas are each 15' wide on both sides of the pavement. Kinderkamack Road Relocation is graded 66' in width, with slopes outside of this limit. Concrete pavement is 30' wide, laid off center, permitting a ten foot stone shoulder on the easterly side and 13' sidewalk areas on both sides.



The work was started on September 8, 1930 and was finally completed on January 8, 1932 and accepted by the State January 26, 1932. Its final cost was \$700,072.90.

3 Bridges were included in this contract viz. Sprout Brook-20' clear span-70' roadway-12' sidewalk \$12,986.79, Coles Brook-34' clear span-40' roadway-10' sidewalk \$7,533.75, and VanSaun Mill Brook-15' clear span-95.33' roadway \$13,048.26 making a total of \$33,568.80. These were accepted by the State on January 26, 1932.

Section 3. Viaduct over Dean Street, Northern R.R. of N. J. and Hesse Place. Owing to the crossing of laid out streets in addition to the railroad this series of spans were necessary viz. 1-47', 3-52', 1-62' and 1-73' making the total length of the project 361'. The width of the roadway is 70' plus 2-6' sidewalks. The structure was of concrete encased girders and Ibeams. The Work was started on May 18, 1931 and finished and accepted by the State on March 1, 1932. The final cost of the work was \$212,659.11.

Ocean City-Somers Point Bridge. This project has a total length of 3707' composed of concrete pile trestle, girder spans and single leaf bascule draw, 150-20' spans, 8 of 65', 2 of 57' and one 50' draw span. The roadway is 40' wide. There are no sidewalks on the bridge. The work was started on April 22, 1931 and completed on July 26, 1932. The accepted cost was \$1,040,117.81. This bridge connects Ocean City and Somers Point and crosses Rainbow Thorofare, Elbow Thorofare and Ship Channel.

Section 3. Jones Road Underpass consists of two encased girders and floor beams yielding a full span of 150'. The width of the roadway is 30' plus two 6' sidewalks. The total length of the project is 161'. The work was started on July 10, 1931 and finished on May 28, 1932. Its finished cost was \$57,378.45.

Route 3

Section 3. Hackensack River, Fort Lee, a distance of 4.505 miles, was paved with concrete 40', 55', 65' and 70' wide by 10" deep. The work was started on September 22, 1930 and was completed on August 19, 1932.

Two bridges were included in this contract, one over Drainage Canal, the other over a brook west of Jones Road, also two culverts were all included in the road contract. The total cost of the work to the State was \$1,668,465.88. It was accepted by the State on August 22, 1932. The cost of the two bridges and two culverts included was \$57,265.72.

Section 3. Viaduct over West Shore R. R., Palisade Avenue and Windsor Road. Work was started on this job by the low bidder but as he failed to push the job properly, his bondmen were notified and took over the work which they finished on April 19, 1932. The work was accepted by the State June 7, 1932. The cost was \$144,719.01. But owing to the number of claims filed, the final payment was delayed.

Route 6

Sections 2A & 3A & 1D. Abbot Avenue, Christie Lane and Grand Avenue, a distance of 1.433 miles. This project extends from Abbott Avenue to Christie Lane and



includes the Grand Avenue grade separation (paving contract) Boroughs of Ridgewood, Palisades Park and Fort Lee. The grading for this project was completed under previous contracts. This contract is simply the finishing of the work started in previous years. This contract was started on August 15, 1931. It was rapidly pushed in order to afford the early use of the highway in conjunction with the George Washington Bridge Approach. An added feature of this work was the construction of concrete traffic markers separating the several traffic lands. Each marker is 6" wide and 3/4 of an inch thick built of white cement and poured with the slab. The pavement is of concrete carried to the full width of the roadway, which varies from 40' to 60' in width and a depth of 10". The work was completed on December 22, 1931. The total cost of the work was \$296,182.05. It was accepted in January 1932.

Old Route 6                      Section 19. Connection to Park Avenue, a distance of 0.185 miles. This work starts from a point north of Summer Street and ends at Park Avenue in the City of Woodbury. The pavement is of concrete 20' wide by 8" deep. The work was started on October 3, 1931 and completed on November 21, 1931 but the final cleaning was not finished until January 13, 1932. The work was accepted by the State on February 9, 1932. The total cost was \$7,576.35.

Section 10 & 2. Sylvan Avenue and Columbia Avenue, a distance of 1.207 miles. This project, placed under contract in 1930, is in two sections.

Section 1C includes that portion of Sylvan Avenue, Borough of Little Ferry, extending from Liberty Street to Bergen Turnpike. Section 2 extends from Harriett Avenue to Brinkerhoff Avenue in the Borough of Palisades Park. Work on Section 1C involved the construction of a 9" concrete pavement of various widths. The work was started on July 24, 1930 and finally completed on December 12, 1931 but was not accepted by the State until March 1, 1932 due to settling of claims. The finished cost to the State was \$374,354.54. The important features of Section 2 are the depressed roadway from Harriet Avenue to Ruby Avenue confined by retaining walls and the building of bridges carrying Broad & Roff Avenues on the depression. A further cost was incurred on this work by the building of a retaining wall from Station 189 to Station 204+69. This work was done by the road contractor. This was finished and accepted by the State on March 1, 1932. The cost of this structure was \$332,161.08.

Section 3. S-1. An overpass was built in Palisade Park over Route S-1. This structure consisted of concrete encased girders having a clear span of 56.5'. The roadway is 60' wide plus two 6' sidewalks. The total length of the structure is 62'. The work was started on March 30, 1931 and was completed on September 23, 1931. The final cost was \$48,228.81. This was finally accepted with the other work on this section.



## Route 8

Section 7. Woodpecker Point to Hainesbury, a distance of 4.563 miles, was paved with concrete 20' wide by 9" deep. This section extends from Blairstown to Hainesbury. One of the greatest improvements on this line was that of the improvement of the alignment; about 80% of the new line has been located over new right of way with the result that an almost straight line has been established between these two villages. The work was started on July 16, 1931 and completed on June 2, 1932 and accepted by the State July 5, 1932. 94% of this contract was completed during 1931. The pavement over two newly constructed embankments being omitted in order to allow for further settlement to take place, but it was found in the spring of 1932, when level were taken, that only 1 and  $\frac{1}{2}$ " was the maximum settlement. The concrete pavement was completed in May and the work finished on June 2, 1932. It was accepted by the State on July 5, 1932. The final cost of the work was \$188,212.90. Three bridges were built by the road contractors, viz.:

Concrete slab over Jacksonburg Creek	\$8,122.32
Arch over Carhart Creek	\$8,275.00
Bridge over Walnut Valley Creek	\$2,684.47

## Route 10

Section 2. Passaic River to Roosevelt Avenue, a distance of 1.153 miles was paved with concrete 30' wide, which was widened to 50' at certain points. The depth of the concrete was 9". The work was started on July 20, 1931 and completed on June 3, 1932 and accepted by the State on July 5, 1932. The total cost

to the State was \$144,586.75. The same contractor also contracted for three bridges; one over the Passaic River a concrete encased I beam structure of 3, 33' sections. The width of the roadway is 50' plus two 6' sidewalks. The total length of the bridge is 108'. This work was started on August 7, 1931 and was finished on December 31, 1931. The second over Meadow Brook, an 8' culvert having a roadway width of 54' plus two 6' sidewalks and having a total length of 10'. The third a bridge over Whippany River of concrete encased I beams having a span of two 42.5' spans. The width of its roadway is 50' plus two 6' sidewalks. The total length of this structure is 91'. This was the last finished on May 31, 1932. The final cost of the three was \$67,102.92. These were accepted by the State on July 5, 1932.

Section 3. Whippany to Old Route 5, a distance of 3.83 miles, was paved with concrete 30' wide except at certain intersections and drainage spots where it was widened to 50'. The uniform depth of the concrete was 9". The work on this job started on November 4, 1931, and was carried on throughout the winter as the wet excavation quantity was found to greatly exceed that originally estimated. Where the wet excavation was removed the contractor backfilled to a depth of at least 18" with a good bank run gravel, thus securing a better foundation. Much difficulty was experienced in placing undeedians in the ooze for a distance of 800'. The paving was started at the west end of the project on May



14, 1932 and was completed on October 15, 1932 and accepted by the State on November 1, 1932. The total cost of the paving was \$238,278.81. Two bridges were built by the road contractor at Malapardis Brook and the other to carry Parsippany Road over Route 10. That over Malapardis Brook has a clear span of 22' with a total width of roadway of 74'. Its cost was \$6,837.48. The other, the Parsippany Road Underpass, has a clear span of 76' and is built of concrete encased girders and has a clear span of 76' with a roadway of 30' plus two 6' sidewalks making a total length of 83'. Its cost was \$32,161.93. These were accepted with the road on October 26, 1932.

Route S-24. Section 1. Elmora Avenue to Stuyvesant Avenue, a distance of 3.167 miles, was paved with concrete 40' wide by 9" deep, plus a width of 64' at several intersections. This work was started on August 24, 1931 and completed on October 26, 1932. It was accepted by the State November 1, 1932. An extension of time was granted on this work owing to the installation of various utilities by the service companies and the Township of Union. The total cost of the pavement was \$274,191.89. From this is deducted the amount due from the Township of Union in the sum of \$10,190.09. Leaving the State's share of the cost at \$264,001.80. In addition to the paving a bridge was built by the road contractor over the west branch of the Elizabeth River. This, a slab structure having a clear span

of 14' with a roadway width of 62' plus 2 sidewalks of 11' each. The total length of the structure was 17'. The work was started on September 23, 1931 and finished on January 15, 1932. The cost of the completed structure was \$9,529.77. The work was accepted with the road on November 1, 1932.

#### Route 25

Sections 3 and 6. Connecting Link, Jersey City, Kearny and Newark, superstructure for bridge over the Hackensack River and for bridge over the Passaic River. This work consisted in the manufacture, delivery and erection of steel superstructure for the bridge over the Hackensack River and for the bridge over the Passaic River. This work was started on April 12, 1931 and was completed on December 21, 1931 and accepted on December 22, 1931. All claims were not settled in time to warrant payment until February 9, 1932. The cost was \$2,357,370.88.

M. P. 56.7. Passaic River Bridge & Cylinder. The work of constructing a cylinder of sheet steel piling for the center piers protection was started on January 5, 1932 and was completed on February 29, 1932. The total cost of the work was \$15,430.83. The work was accepted by the State March 3, 1932.

Section 2. Connecting Link Jersey City Contract #42, a distance of 0.902 miles. This is the superstructure of Steel trusses having a highway width of 48.5' and 50' and a change around the ramp of two roadways each 30', on the ramp, this width is 24'. The



tonnage of structural steel used was 21,500 lbs. and of steel castings, a tonnage of 745 lbs. The work was started on August 10, 1931 and completed and accepted by the State on April 20, 1932. The adjusted final amount paid by the State was \$2,470,431.70.

Sections 7, 7A & 8. Connecting Link Diagonal Route in the City of Newark, a distance of 0.603 miles. This work consists of a series of piers as follows:

11 at an average spacing of 290' on highway  
18 at an average spacing of 60' on Lockwood Avenue.  
The work was started on February 4, 1931 and finished on December 21, 1931 and accepted by the State on December 22, 1931. The account was not settled until November 1, 1932 due to claims for extra. The final cost of the work to the State was \$668,262.02.

Section 4A. Connecting Link, Kearny, a distance of 0.461 miles. This consists of steel trusses with a highway width of 50' and around ramp two of 30' on the ramp proper 24'. The work was started on July 6, 1931 and was finished and accepted by the State on May 7, 1932. The final adjusted cost to the State was \$1,818,376.48.

Section 7A. Connecting Link, Newark Contract #50 Ramp embankment plus paving of Blanchard Street and Lockwood Street, a distance of 0.167 miles on ramps forming connections between Blanchard Street

Street and Lockwood Street and the State Highway. The work was started on July 30, 1931 and finished and accepted by the State on April 23, 1932. The cost of the work was \$46,556.85.

Section 8B. Connecting Link Newark, Contract #68 Paving Foundry Street, a length of 0.186 miles.

This was paved with sheet asphalt to a width of 36' on a concrete base the remainder was paved with hot mix on macadam. The work was started on May 9, 1932 and finished on June 28, 1932. The cost of the work was \$12,243.13 and this included the formation of shouldlers as a part of this work.

Sections 8 and 8A. Connecting Link Newark, Contract #51, a length of 0.45 miles, was paved with granite block but work was suspended for over four months as a consequence the work was not finished during the year.

Section 4B & 5. Connecting Link Kearny was built of steel trusses. The width of the roadway between curbs was 50'. Around the ramp was laid in two strips of 30' each and on the ramp proper, the width was 24'. The work was started on November 2, 1931 and finished and accepted by the State on May 21, 1932. The cost of the completed job was \$1,121,354.22.

Section 1. Paving Viaduct at Tonnele Circle Jersey City. This paving is 0.476 miles long and completes the improvement at this point. The work was started on September 1, 1932 and finished and accepted by the State on October 4, 1932. Its total cost was



\$38,615.04.

Section 3. Westerly edge of Tonnele Circle to Hudson County Boulevard, a distance of 0.177 miles was paved with granite block 5" deep on a 1" sand mortar cushion, and is composed of two 28.5' roadways on existing foundation on the embankment 478' of 5" granite block and one 48.5' roadway on existing floor slab on the structure. The total cost was \$23,748.15. The work was finished and accepted on October 12, 1932.

Section 5-A. The Ramp Connection to Jacobus Avenue, a distance of 0.186 miles was paved with bituminous concrete 2" deep on a 6" macadam foundation. The width of the pavement was 24'; this was backed with earth fill shoulders 7' wide. The work was started on August 29, 1932 and finished and accepted on October 15, 1932. The total cost of the work was \$7,110.96.

Connecting Link, approach to Home for Disabled Soldiers at Menlo Park, a distance of 0.82 miles was paved with bituminous penetration macadam to a width of 20' and a depth of 6". This work was started on August 25, 1932 and finished on October 27, 1932 and accepted by the State on November 9, 1932. Its finished cost was \$12,794.43.

Connecting Link, Sections 3 and 6, Ladders for Aviation Obstruction Lights in Jersey City, Town of Kearny and City of Newark. The work was started on October 4, 1932 and finished on November 20, 1932. The work was accepted by the State on November 29, 1932.

The total cost was \$1,890.00. A lighting system for Navigation and Aviation covering the elevated road structure for a distance of 3.619 miles was erected along the structure, the work was started on July 25, 1932 and finished and accepted by the State on December 10, 1932. The total cost of this work was \$79,735.09.

The painting of the superstructure for a distance of 3.088 miles, between Tonnele Circle and the P. R.R. through truss in Jersey City, this work was started on May 10, 1932 and completed on December 10, 1932. Its cost was \$183,767.00.

#### Route 26

Sections 1 and 2, Bridge over the Delaware and Raritan Canal, at Baker's Basin. This is a single leaf bascule draw span having a clearance of 28.5'. The width of the roadway is 40'. The total length of the project is 462.82'. The work was started on January 21, 1931 and finished on March 28, 1932. The total cost of the work is \$144,113.12.

Sections 1A, 2B & 3A. Trenton-Monmouth Junction Road, a distance of 10.795 miles is a pavement widening job. It consisted of widening the existing concrete pavement, starting from the circle at the Trenton end of the job and runs along the easterly side of the present pavement in a northeasterly direction to the Monmouth Junction Road. The width of this strip is 10.5' except where drainage conditions demand it, here it is widened to 15.5'. The uniform depth of the concrete is 9". This work was started on July 28, 1932 and was fi-



nished on December 15, 1932. It was accepted by the State on December 20, 1932. The completed cost was \$169,400.79.

Route 28

Section 1. Bridge over the Raritan River R. R., is of encased I beams and is composed of 3 bents of two 31.5' and one 35' span. The roadway width is 50' plus two 6' sidewalks. The total length of the structure is 115'. The work was started on January 12, 1932 and accepted as finished by the State on October 11, 1932. The total cost was \$26,383.04. 50% of this total is paid by the railroad.

Route S-28

Section 1A. Bridge over Weston's Mill Pond, is built of reinforced concrete arches of these the clear span consists of two 70' and one 76' arches. The width of the roadway is 50' plus two 6' sidewalks. The overall length of the structure is 229'. The work was started on October 1, 1931 and was completed on September 9, 1932 and accepted by the State on November 7, 1932. The total cost of the structure was \$139,467.81

Section 2. Tanner's Corner-Rue's Lane, a distance of 1.785 miles was paved 30' wide by 9" deep with reinforced concrete. The work was started on November 4, 1931 and finished on July 18, 1932. The work was accepted by the State on July 18, 1932. The total cost to the State was \$84,698.51.

Route 29

Section 1A & 2B. Long Avenue, Union County Parkway, a distance of 2.229 miles was paved with con-

crete of various widths viz. 22', 30', 50' and 65' and a uniform depth of 9". Practically all items of this contract were completed during the year 1931 and the highway was opened to traffic in December of that year. It was found necessary to delay a part of the topsoiling and seeding until 1932. In other words, the work was all done but finishing; this was accomplished on August 10, 1932 and accepted by the State on September 22, 1932. The final cost was \$242,041.90 and the remaining amount due paid.

Section 1. Viaduct over L. V. R. R. and Liberty Street was built of encased girders and reinforced concrete I beams. This bridge consisted of nine 30', one 77', one 47', one 35', one 49' and one 29' spans; the width of the roadway is 50' plus two 6' sidewalks. The total length of the structure plus the approach slabs is 530'. The work was started on October 30, 1931, and finished and accepted by the State on July 18, 1932. Its total cost to the State was \$126,219.57.

Section 1B. Hillsdale Place, Elizabeth River, a distance 1.415 miles was paved with concrete to a width of 40' and 50' by 9" deep. The work was started on July 22, 1932 and finished on November 3, 1932 and accepted by the State on November 20, 1932. One item of change was that of casting white concrete traffic markers integral with the pavements. The grading had been completed previously. The completed cost of the work was \$61,322.23.



Route 30

Section 9. Musconetcong River to Oxford, a distance of 6.963 miles. This section extends from the Musconetcong River to the top of Oxford Mountain just east of Oxford. It is practically all over new right of way, 80' in width. Six bridges were constructed under this contract. Two railroad crossings on the D. L. & W. R. R. have been eliminated under a separate contract. The work of paving was started on April 28, 1930 and finished on February 16, 1932 and accepted by the State on March 1, 1932. The pavement of concrete was laid 20' wide by 9" deep except at street intersections where it is 56' wide plus the traffic circle in Washington Borough where this width is increased to 90'. The cost of the work was \$696,373.46.

Route 31

Section 9. Andover-Newton, a distance of 3.03 miles. This line extends from the northerly line of Andover Borough to the southerly line of the town of Newton and was built under the County Reimbursement Act. Grading was started on this project on July 13, 1931 and was accepted by the State on May 24, 1932. The total cost to the State was \$137,166.27. Four small bridges were included in this road contract. Their cost was \$23,699.85. These were completed on December 17, 1931 and accepted on January 4, 1932.

Route S-31

Section 2. Ross Corner-Newton, a distance of 3.865 miles was paved with concrete 20' wide by 9" deep. This work starts at the northeasterly line of the Town of Newton and runs northeasterly to a point about 1500' from Ross' Corner, the latter section being left for a

future grade elimination over a branch of the D. L. & W. R. R. A marked improvement was made in alignment, the new location being about 70% over new right of way. Work was started on the project on July 22, 1931 and completed on July 7, 1932 and was accepted by the State July 18, 1932. The total cost of the paving to the State was \$174,916.31. A concrete slab bridge of 10' clear span was built by the contractor and finished on June 1, 1932. Its cost was \$3,309.97.

#### Route 35

Section 8. Bridge over Freehold and Jamesburg R. R. is an encased I beam structure composed of a series of spans as follows: viz., one of 38.75' plus two of 34.5', yielding a total length 111.19'. The width of the roadway is 50' plus one 6' sidewalk. The work was started on February 8, 1932 and completed on July 14, 1932. It was accepted on October 3, 1932. Its final cost was \$27,126.62. The State's share of the cost was \$14,700.81.

#### Route 36

Section 1. Keyport-Keansburg, a distance of 4.13 miles was paved with concrete 20' wide by 9" deep, except at intersections where it was extended to 40' & 50'. The construction was started on October 6, 1931 and was finished and accepted on August 13, 1932. The work consisted of a 20' pavement plus 15' gravel shoulders on each side except at the separation of Route 35 and Route 36, where the concrete is 30' wide for one way traffic and along the stone road where 25' of gravel surface was provided on the right and 5' on the left to supplement the existing 20' concrete pavement. There were also five



bridges built. The total cost of the pavement was \$195,318.10.

Section 1. There were 5 bridges built by the road contractor as follows:

At Station 10+01--separation of Route 35 & 36, a 48' span costing, \$20,161.24. At Station 101+25--Flat Creek Widening 30' span \$4,552.37. At Station 128+90--East Brook Widening, 12' span \$2,816.05. At Station 151+90--Industrial R. R., 10' span \$4,592.83. At Station 205+57--Waackaack Rest, 20' span \$14,727.28. Making a total of \$46,849.77.

Section 2. Keansburg-Atlantic Highlands, a distance of 5.28 miles. This is the middle section of the north shore highway which is a direct connection between Route 35 at Keyport and the Atlantic Highlands. This route serves as a feeder for all of the shore resorts in this section and at the same time diverts traffic from the more congested points. This section owing to the fact that it lies close to the shore and being mostly a new alignment had to be built for a great portion of its length over salt marshes. These were excavated to remove the unstable muck and the space filled with good material to provide a solid road bed. Paving started on May 10, 1932 and was finished on August 25, 1932. The finishing of shoulders etc. delayed the acceptance until December 20, 1932. The cost of the work was \$246,929.64. Two small bridges were built under this contract at Station 272+60 over Pew's Creek, span 30' \$6,202.58 and at Sta-

tion 326+67.5 over Compton's Creek, span 30' \$9,423.67. That at Station 272+60 had a clear span of 16'. It was a slab structure having a clear roadway of 50' plus one 6' sidewalk. Its total length was 18'. That at Station 326+67.5 was also a slab structure of two 14' spans with the standard 50' roadway and two 6' sidewalks. Its total length was 32'. The work was finished on March 31, 1932.

#### Route 37

#### Section 6. Black Creek Bridge Approaches.

This work consisted of constructing a new concrete bridge together with both approaches to the bridge. The latter was built of 9" concrete pavement with improved shoulders, giving a graded width of 46'. The special feature of the work was the insistance that the fill material placed within the lake area, test not more than 10% of organic matter or loam. In addition the base for the improved shoulders was built of the broken concrete pavement removed from the old roadway. This length of the work was 0.235 miles and the width varied from 20' to 28'. This work was finished on August 8, 1932 and accepted by the State on August 29, 1932. The final cost was \$23,152.98.

Section 6. A new bridge was built at this section, of the encased I beam type, having a clear span of 40'. The width of the roadway is 46' plus two 6' sidewalks. The over-all length is 43.25'. Work on this job was started on January 15, 1932 and finished on July 21, 1932 and was accepted by the State on August 29, 1932. Its final cost was \$35,235.40.



## Route 38

Section 2. Covers the construction of a concrete highway from Kings Highway to the Mt. Laurel-Hainesport Road. Its length is 7.428 miles. The pavement is of concrete 20' wide except at road intersections and drainage points where it is widened to 56'. Its uniform depth is 9". Work on this job was started on March 19, 1931 and was finished on June 4, 1932 and accepted by the State on June 20, 1932. Its cost was \$441,552.73. Four bridges were built on the section under separate contract. They were as follows:

Station 54+55	Concrete slab 20' span	\$11,094.70
" 114+77	" " 23' "	8,933.71
" 273+27	" " 16' "	11,041.09
" 362+57	" " 18' "	<u>14,928.17</u>
Making a total cost of		\$45,998.17

These were accepted by the State on April 12, 1932. An extra box culvert was built at Station 147+10 and finished on June 11, 1931. Some final finishing was required after the culvert was accepted. Its cost was \$3,917.75. This was approved by the State on June 20, 1932.

## Route 40

Section 5. Red Lion-Buddtown Road, a distance of 7.803 miles was paved with concrete 20' wide by 8" deep. The work was started on March 6, 1931 and was completed on December 18, 1931 and accepted by the State on December 29, 1931 but too late to be included in yearly

expenditure of 1931. Included in this contract is a traffic circle located at the intersection of Route 40 and Route 39. This contract forms a part of the highway carrying traffic from Camden, Medford and Red Lion to Lakehurst, Toms River and norther shore points. The total final cost to the State was \$383,796.24. This bill was finally passed by the State on April 12, 1932. In addition to the above the contractor built 2 bridges, one at Station 1196 over Friendship Creek of encased I beam having a clear span of 30' with a roadway 50' wide and a total length of 34' \$11,194.33. The other over Feeder Canal at Station 1201+50. This has a clear span of 10', a roadway 50' wide. Total length of the structure cost \$4,162.20, making a total of the bridges on this job \$15,356.53.

#### Route 40

Section 6. Buddtown to Ocean County Line, a distance of 7.167 miles was paved with concrete 20' wide by 8" deep and widened to 40' at intersections and drainage points. Work on this section was started on May 7, 1931 and completed on June 9, 1932 and accepted by the State on June 20, 1932. A widening was made at Upton Station of the Pennsylvania railroad which was paid for by the railroad. This contract includes 3 bridges as follows:

Station 1593-90 Bisphan's Mill	}	\$29,269.22
" 1730+50 Mt. Misery Brook		
" 1858+50 J. J. White Reserv.)		
The total cost of the paving was \$383,418.21.		



Section 6, a bridge was built over the Penn. R. R. at Upton Station, of encased I Beams forming a clear span of 4+21.41' sections and one 37.71' main span. The roadway is 50'. The over-all length is 141'. The work was started on February 17, 1932 and finished on June 23, 1932 and accepted by the State on August 29, 1932. The cost was \$32,703.66.

Section 4. Medford-Red Lion Road, a distance of 3.599 miles. This section was built largely over a new alignment from one traffic circle to the other. The work was started on July 15, 1931 and was finished on May 24, 1932 and accepted by the State on May 31, 1932. Its cost was \$139,423.59.

Three bridges were built on this job also one cattle pass was included in the road job. The cost was \$22,701.20. These finished with the road contract.

Route 42

Section 6. Weymouth-McKee City, a distance of 9.345 miles was paved with concrete 20' to 30' wide and widened to 56' at intersections and drainage points and a uniform depth of 8 inches.

The work was started on February 26, 1931 and was accepted by the State on December 1, 1931, but owing to disputed claims against the contractor, was not passed for final payment until February 9, 1932. The cost of the pavement was \$601,742.53. The adjusted cost of the three bridges and three culverts was \$39,239.98. The pavement, bridges and culverts were all in one contract. The location of the bridges were

as follows viz.:

Station	464+54	Little Mill Stream
"	541+38	Big Ditch
"	54 +	Babcock's Creek

The three culverts were at Station 642+10, 547+85 and 725+15.

Section 5. A bridge was constructed by a separate man over Hospitality Branch; its span is composed of two 21' sections. The width of the roadway is 56'. The total length of the structure is 46'. The work was started on July 17, 1931 and was finished on December 7, 1931 and was accepted by the State on December 29, 1931. Owing to disputed claims against the contractor, the work was not paid for until February 1932. The final cost to the State was \$21,837.38.

Section 6A. Grade separation or underpass at Route 50 consists of a clear span of 2+40' sections having a roadway 20' wide plus two 6' sidewalks. The structure has an over-all length of 85'. The work was started on September 10, 1931 and was finished on January 21, 1932 and accepted by the State with the road on April 19, 1932. The total length of the structure is 0.369 miles. the final cost of the road was \$138,989.23. That of the bridge was increased by reason of finding the use of piles necessary; as a result, the cost was increased to \$60,021.12.

Route 48

Section 26. Traffic Circle at the intersection of State Highway, Routes 48 and 46, was found to be necessary to better control the traffic problem at



this point as shown by the number of accidents at this point. This traffic Circle is only 85' inside diameter and was built within the limits of the existing intersection, thus requiring very little change to existing properties. The work consisted of an 8" concrete pavement having a width of from 40' to 50'. The work was started on October 30, 1931 and was completed on May 14, 1932 and accepted by the State on May 18, 1932. Its finished cost was \$22,572.90.

#### Resume

During 1932 construction work on the State Highway system was in progress on 183.016 miles of various types of highway paving, 100 stream bridges, culverts, etc., 34 railroad grade separations and 53 highway grade separations, the total value of work performed in 1932 being \$16,124,287.06. A summary of the work performed in 1932 on

- 1 53.49 miles of highway paving, 61 stream bridges, culverts etc., 20 railroad grade separations, and 46 highway grade separations that were started previous to 1932 and finished during 1932.
- 2 10.557 miles of highway paving, 1 railroad grade separation and 1 highway grade separation started previous to 1932 and will be carried over into 1933.
- 3 28.905 miles of highway paving, 1 stream bridge, 2 railroad grade separations, that were started and completed in 1932.
- 4 54.17 miles of highway paving, 20 stream bridges, culverts, etc., 9 railroad grade separations and 3 highway

grade separations that were started in 1932 but will be carried over into 1933.

5

And the work performed in 1932 by the several counties under reimbursement agreements on roads in various counties. 35.894 miles of highway paving, 18 stream bridges, culverts, etc., 2 railroad grade separations and 3 highway grade separations. From the above we see that contracts covering 114.406 miles of highway paving 79 stream bridges, culverts, etc., 24 railroad grade separations, and 49 highway grade separations were completed in 1932, which were started but not completed previous to 1932; also that contracts under way covering 68.61 miles of highway paving, 21 stream bridges, culverts, etc., 10 railroad grade separations, and 4 highway grade separations will carry over to 1933.

With the open to traffic on November 24, 1932, of the High Level Viaduct on Route #25 Connecting Link, the last section of the main approach to the Holland Tunnel through the built-up metropolitan area of Jersey City, Newark and Elizabeth, was completed, thus consummating the original purpose of providing a through artery of travel that would overcome the difficulties to be encountered by the great amount of travel to and from the tunnel, also from the delays caused by the opening of the drawbridges over the Hackensack and Passaic rivers. The accomplished project provides free and



uninterrupted travel at speed through this metropolitan area without interfering with local traffic and navigation on the Hackensack and Passaic Rivers.

The special feature of design during the past year is that of dual or divided roadway construction. Eleven projects, embodying this principal, were placed under contract for construction. The wider islands separating the roadways are narrowed at Major Bridge, with due regard to the safety and convenience of the travelling public.

During 1932, 11 Federal Emergency Construction Highway Projects were placed under contract in this State, under the provisions of the Federal Emergency Relief Act, whereby 100 per cent Federal Aid was provided for carrying on these jobs.

Special provisions were included in the contracts with respect to the employment of labor on various operations, the intention being to employ as much hand labor as possible consistent with reasonable economy of construction.

A summary of construction under way on the New Jersey State Highway is as follows:

	Miles
Granite Block	0.653
Reinforced Concrete	157.039
Bituminous Concrete or Asphalt	7.061
Macadam or Gravel	3.209
Grading	<u>15.057</u>
Total	183.016

Value of work performed during 1932

Road	\$6,633,628.24
Stream Bridge and Culverts	8,493,687.73
Grade Separations	722,156.82
Railroads	274,814.27
" " Highways	<u>274,814.27</u>
Total	\$16,124,287.06

# Statement of Total Assets & Liabilities, December 31, 1932

## Assets

	December 31, 1931	December 31, 1932
Cash balance	\$16,070,686.79	\$14,129,166.39
Mill tax		117,172.88
Federal Aid	1,956,531.21	4,320,159.05
Due from Surplus		
Revenue of Bridge		
add Tunnel Commission	2,200,000.00	
Interest on above to		
December 31, 1931	391,178.39	391,178.39
Undistributed material	148,651.35	158,934.25
Due from sinking fund		
surplus account	1,656,206.09	1,656,206.09
Accounts receivable	4,035,779.58	
Plant and Equipment	675,451.27	651,848.01
	<u>\$27,134,484.68</u>	<u>\$23,624,665.06</u>

## Liabilities

Contract Road	4,175,834.70	3,087,143.71
" Bridges	9,373,903.67	3,253,391.38
County Reimbursement	264,517.65	95,284.80
Purchase of Right of Way	8,082,509.22	7,800,376.63
Detours	3,741.25	2,500.00
Tree planting	2,385.00	
Balance of program	548,000.00	
Allotment to Counties		
Maintenance	757,908.87	1,070,190.53
Allotment to Counties		
Construction	263,149.84	243,054.56
Allotment to reserve	416,956.62	674,010.24
" " Townships		
Construction	1,330,381.44	1,644,478.66
Allotment to Counties		
Maintenance	251,721.63	280,963.99
Allotment Purchase of		
Plant and Equipment	109,519.08	
Allotment Maintenance of		
State Highway	356,668.48	261,687.28
Allotment Emergency Relief	70,000.00	
State Aid Appropriation		
Chap. 395, P. L. 1912	35,409.20	24,551.73
Surplus invested in		
Plant & Equipment	675,451.27	651,848.01
Balance Available	416,426.17	4,535,183.54
	<u>\$27,134,484.68</u>	<u>\$23,624,665.06</u>



Routes 1, 4 & 6      Section 6. Christies Lane to George Washington Bridge Plaza in the borough of Fort Lee, a distance of 0.978 miles, was paved with concrete in variable widths from 20' to 320'. The contract for this project was awarded in September 11, 1930 and work was started on September 5, 1930 and was finally accepted by the State on March 18, 1933. Included in this contract were 5 bridges as follows over Main Street, Jones Road, County Road, Route 4 east bound (Viaduct) and the Public Service Railway, also under the highway. Six bridges, three on Fletcher Avenue, one each under Linewood Avenue, Center Avenue and Lemoine Avenue. The main stem roads were open to traffic on October 26, 1931, the date of the opening of the George Washington Bridge. On January 1, 1932, this contract, with the exception of the fertilizing and seeding, was completed. The contract was, however, held open pending the approval of claims presented by the contractor. On March 18, 1933, the State Highway Commission adjusted the pending claims and the final estimate was issued eliminating from the contract the uncompleted items of fertilizing and seeding. The final adjusted contract price was \$1,184,662.72. Nine bridges were included in this contract and were paid for separately. These were finished in and accepted on March 18,

1933. The final cost was \$751,318.51. This was passed by the State on October 19, 1933.

Sections 8 and 9. Borings were made in Newark Bay for the projected extension at a cost of \$1,758.22.

Route 2

Section 6. Hasbrouck Heights to Route 4, a distance of 4.315 miles, through the borough of Hasbrouck Heights, City of Hackensack, boroughs of Lodi and Maywood and the township of Rochelle Park and Paramus borough; Starting at Old Route 17N. The work is conducted on a new line. The principal delay was caused at the Maywood Chemical Company's plant and thence north to the south side of the Central Avenue bridge. The work was started on April 29, 1931 and finished on July 19, 1933 and accepted by the State on July 25, 1933. The adjusted cost to the State was \$1,200,357.29. The pavement was of concrete 30' wide except at a few points where it was widened for road intersections and drainage purposes. The uniform depth is 10" to this was added bridge approaches 18" deep. Bridges and culverts were constructed as follows. A bridge at Grand View boulevard and a Route #2 underpass culverts were built over ditches at Stations 88+53, 90+ and 109+77.

Route 2

Section 6. The cost of the completed road was \$1,200,357.29. Bridges constructed on this section under separate contract were two at Terrace Avenue and Central Avenue by one contractor; three at Essex Street, Passaic Street and Route #4 by a second contractor; and one at Fairview Avenue by a third. First, those at Terrace Avenue and Central Avenue were paid for in 1932.



Second, those at Essex Street, Passaic Street and Route #4 were finished and paid for in 1932. Third, one at Fairview Avenue was finished and paid for in 1932. Three jobs were built at the Maywood Chemical Company's plant as follows:

Main Span over N.Y.S. & W.R.R., a span of one 60' and two 42' sections, built of encased I beams, having a roadway of 50' plus two 6' sidewalks and a total length of 154'. This work was started on October 24, 1932 and finished on May 4, 1933. The total cost of the finished job was \$41,955.49, one half of this is chargeable to the railroad.

The overpass over the Spur consisted of a span of one 39.41' span and two 30' spans. The total length of the bridge is 121'. Its roadway is 50' wide plus two 6' sidewalks. The work was started on October 24, 1932 and finished on May 4, 1933, Its cost was \$32,443.06.

The overpass at the Maywood Chemical Company's plant has a clear span of 10' with a 50' roadway and two 6' sidewalks. The total length of the work is 14'. It was worked with the two bridges and was accepted as finished with them on May 4, 1932. The final cost was \$7,819.84. The total cost of the three bridges was \$82,218.39.

Section 9. The Erie R.R. Bridge on Route #2, Section 9, carries Route #2 over the railroad on a new location. The span is 79.25'. The roadway is 50' wide plus two 6' sidewalks. It consists of two main girders with transverse floor beams all encased in concrete.

The total length of the structure is 89.5'. The work was started on September 23, 1932 and was finished on April 29, 1933. The total cost was \$57,639.61. The State's share of the cost is 50%.

Bridge over the Ramapo River about 1 mile south of Suffren was built of encased I beams having two 43.5' and two 58.58' sections. This has a roadway 50' wide plus two six (6') foot sidewalks. The total length of the structure is 186.5'. The work was started on September 29, 1932 and was finished on September 5, 1933. The adjusted cost was \$79,170.11.

## Route 2

Section 9. New York State Line to Franklin Turnpike, a distance of 3.813 miles, was paved with concrete 30', 40' and 50' wide to fit the existing conditions but 30' was the principal width along a greater portion of the job. This section connects with New York State Highway #17 at the N. Y. & N. J. State Line about 1 mile west of Suffren, N. Y., thence following along the Ramapo Mountains by side hill cuts, curving southeast across Hillburn Road, crossing the Ramapo River and the Ramapo Valley Road by grade separation thence across Ramapo Avenue and Island Road, in Hohokus Township; entering the Borough of Ramsey by overhead bridge at the Erie Railroad and grade crossing at Spring Street and terminating at the Traffic Circle and Franklin Turnpike. Alignment is over new right of way throughout, 80' wide except at the grade separations and the Circle. The work was started on September 14, 1932 and completed on



September 12, 1933 and accepted by the State on September 19, 1933. Its final cost was \$513,797.35. Four small stream bridges were included in the road job at:

Station 111+85, a reinforced 16' concrete slab	\$6,682.60
Station 121+ , a reinforced 16' concrete slab	\$8,111.18
Station 133+35, a reinforced 16' concrete slab	\$8,293.66
Station 148+55, a reinforced 16' concrete slab	<u>\$6,640.00</u>
Total	\$29,727.44

These were accepted with the road.

Route 4                      Ocean City, Somerspoint Beach Thoroughfare Bridge, is composed of a single-leaf Bascule span, encased deck girder spans and a concrete trestle composed of the following members, viz.:

thirty-two	20' spans
three	70' spans
one	77' span
one	90' span; plus the

approaches 799' long, making a total length of 1816'. This work was started on June 21, 1932 and finished May 16, 1933. The adjusted contract price was \$411,125.99.

Route 5                      Broad Avenue to Motel Avenue, a distance of 0.90 miles, was paved with concrete of varying widths as follows:

On Railroad Avenue	28.37'
On Church Street	30'
on Cemetery Avenue	40.00'
on Overpass	40'.

The uniform depth is 9". These form the Approaches to

the overpass of Bergen Turnpike over the Erie Railroad at Ridgefield Borough. This work was started on May 25, 1931 and was completed on August 8, 1933. The contract was let by Bergen County under the Reimbursement Act and was finally accepted by the State on September 19, 1933. Its cost was \$111,405.64.

Route 8

Section 4A. Delaware-Columbia, a distance of 2.84 miles was graded, and paved with concrete. The work was started on September 21, 1932 and was completed on May 15, 1933 and accepted by the State on July 31, 1933. The final cost to the State of the grading and paving was \$132,432.26. That of the bridge over Delaware Creek and the underpass on Route #6 was \$26,268.30. These were accepted by the State with the road.

Route 21

Section 1A. Viaduct over P.R.R.&L.V.R.R (Newark Viaduct to Pier 16). The structure as built consists of a viaduct of 16 spans, varying in length from 62' to 116'. It is built over the tracks of the New York Bay Railroad Company and the United New Jersey Railroad and Canal Company, the Pennsylvania Railroad Company, lessee; and over the tracks of the Lehigh Valley Railroad of New Jersey, the Lehigh Valley Railroad Company, lessee. The superstructure consists of plate girders with transverse floor beams, all encased in concrete. The deck of reinforced concrete slabs is overlaid with fabric waterproofing and asphalt block paving. The roadway is 44' wide with a curb 2' wide on each side. Conduits for the proposed lighting system are built in



the concrete of the curbs. The substructure consists of an open abutment at the south end and sixteen piers all founded on wooden piles, except Pier #16 which is built on precast concrete piles. Each pier consists of a concrete footing supporting a wall upon which in turn rests three columns. The shafts of the abutment and of piers #13, 14 and 16 are of reinforced concrete and those of the remaining 13 bents are structural steel encased in concrete. The roadway is drained by inlets or basins covered with iron gratings and placed near the curb line, the work was started on January 12, 1933 and was completed on October 24, 1933 and accepted by the State on October 31, 1933. Its completed cost was \$521,792.92. The State's share of the cost in the above amount is the above amount less 50% of the cost of the span over the L.V.R.R. plus the supports amounting to \$18,300.94.

#### Route 25

Sections 7, 7A & 8. Connecting Link, Newark, N. J. contract #54. This contract was for the Manufacture, delivery and erection of a steel superstructure for a highway viaduct and ramp connections from a point about 470' southerly from the Lincoln Highway to a point near the westerly shore of the Passaic River and for a ramp connection to the viaduct, all in the City of Newark. The ramp crosses over the tracks of the Waverly and Passaic branch of the Pennsylvania Railroad north of the Lincoln Highway. The work under this contract covers the erection of a steel structure over the Lincoln Highway,

carrying a street railway, and other public streets. The work was started on December 1, 1931 and was completed on August 20, 1932. It was accepted by the State on August 29, 1932. The final adjusted cost was \$881,227.87. On final adjustment, the final payment was \$901,227.87. This \$20,000 increase was composed of the following items:

A. additional drawing room expense due to changes--

\$2,500.00

B. shop overtime due to delay in preparation of details--

\$8,500.00

C. use of extra equipment and overtime \$9,000.00

This allowance was made on Jan. 7, 1933 \$20,000.00

Sections 8 and 8A. Connecting Link from a point south of Lincoln Highway to Foundry Street in the city of Newark. The work consists of the construction of a highway viaduct and ramp connections, and includes foundations, steel structures, retaining walls, pavements, and other incidental work. The work was started on August 19, 1931 and was finished on January 21, 1933. Its final cost was \$373,928.30. Work was suspended from July 6, 1932 to November 25, 1932 for the executing of adjacent work.

#### Route 25

Sections 2 to 8. The construction of a concrete pavement from Jersey City to Newark. The work consists of the manufacture, delivery and erection of the steel work required for the deck of the highway structure, including ramps, and the furnishing and placing of concrete for deck slabs and sidewalks on the highway structure,



including ramps; and the surface pavement, grading, curbing, drains, railing and other incidental work on the road approaches. The work was started on April 18, 1932 and was completed on December 28, 1932. The work was not finally accepted by the State until June 23, 1933. The final cost was \$931,246.93.

Section 3. Connecting Link from Hudson County Boulevard to Newark Avenue. This is the construction of a steel highway viaduct with ramp connections and includes the construction of foundations, floor slab, retaining walls, embankment and other incidental work. The steel structure is in part encased in concrete and in part painted. The work included also grading, construction of pavement, concrete baulis-trades, etc. The viaduct crosses over the tracks of the Erie Railroad and affiliated companies. The work was started on August 10, 1931 and was completed on December 31, 1932. The cost of the finished work was \$1,241,108.71, and was accepted by the state on January 4, 1933.

#### Route 26

Sections 4A, 5A & S-26. Widening from the Monmouth Junction Road to Berdine's Corner, a distance of 10.20 miles. This consisted of adding, on the easterly side of the highway, one 10.50' strip of concrete plus a 5' improved shoulder. The work was started on August 4, 1932 and finished on December 15, 1932. It was accepted by the State on December 20, 1932. It passed for payment on January 17, 1933. Its cost was \$215,874.58.

Section 1-A. Weston's Mills, from Route 25 to Weston's Mill bridge and Raritan River Railroad Bridge approach, a distance of 0.785 miles was improved with a 9" concrete pavement varying in width from 30' to 50'. A traffic circle was constructed at the intersection with Route 25 plus a temporary approach to Burnet Street north. The bridge over the Raritan River Railroad had been completed some time and the approach embankments finished. The paving of these embankments was included in the Section 1-A contract. The work was started on July 11, 1932 and completed on November 25, 1932 and accepted by the State on November 29, 1932. The total cost was \$92,078.84.

Section 1-A. A bridge was built over the Weston Mill Pond, this consisted of three arches, two of 70' and one of 76', with a roadway of 50' plus two 6' sidewalks. The total length of this structure was 229'. Work was started on October 1, 1931 and finished on September 9, 1932 and paid for that year.

Section 3. Route 25 to Commercial Avenue, New Brunswick, a distance of 1.365 miles, was paved with concrete to the following widths: 36', 40' and at intersections 50' and a uniform depth of 9". Owing to difficult grade conditions at Burnet Street intersection about 1000 cubic yards of retaining wall had to be built to prevent wash over the City Dock, to separate roadway grades and preserve College property. The work was started on February 8, 1933 and finished on August 17, 1933 and accepted by the State on August 21, 1933 and



the cost of the finished structure was \$120,625.76.

Section 2-A. Rue's Lane to the Matawan Road at Old Bridge, a distance of 1.457 miles, was paved with concrete of the following widths: viz., 20', 30', 40' and 50'. The work was started on November 8, 1932 and completed on August 17, 1933. Accepted by the State on August 21, 1933. The cost of the finished work was \$134,165.72. A bridge was built over the Camden and Amboy Division of the P. R. R. and South River. This consisted of six 55.17' and two 43.17' spans. This was an encased I beam structure. The roadway is 50' wide plus two 6' sidewalks. The total length of the structure is 421.75'. Work was started on August 1, 1932 and completed on August 30, 1933. The final adjustment was made and the State accepted the finished work on October 17, 1933. Cost \$109,873.16.

#### Route 29

Section 10-C. Viaduct over Pennsylvania Railroad at Waverly Yards consisting of encased plate girders was composed of the following spans:

4	72.39'	289.56'
1	76.54'	76.54'
1	67.73'	67.73'
3	78.25'	244.75'
2	95.43'	190.86'
1	101.83'	101.83'
1	109.54'	109.54'
1	68.95'	68.95'
1	86.73'	86.73'
1	65.67'	65.67'
<u>16</u>	Total over-all	<u>1302.16'</u>

The work was started on July 26, 1932 and was completed on August 17, 1933. It was accepted by the State on

September 19, 1933. The cost as finally adjusted was \$319,749.40. The length of this section is 0.244 miles.

Route 35

Section 8. Belmar-Brielle Road, 5.463 miles long. This is a relief road from Belmar to the Manasquan River Bridge on south end at Brielle. It is built over a new alignment. Two traffic circles were constructed on it, one at the intersection of Atlantic Avenue, Manasquan and the other at the intersection of Route 34, west of Brielle. This latter is provided to take a connecting line from Camden, over Route 40 in the future. Thus forming a direct line to the shore. The work was started on August 12, 1931 and completed on September 20, 1932 and accepted by the State on October 18, 1932. Its final cost was \$340,095.44. This was paid for by the State in January 1933.

Four bridges were built on this section by the same man as follows: a farm bridge of a total length of 127' and width of 10' was of concrete encased I beams, this was started on October 20, 1931 and finished June 30, 1932. Its completed cost was \$5,555.50. One half mile beyond this, a bridge 50' wide was built over an old mill stream. Its span was 20'. The work on this was started on August 12, 1931 and finished on March 3, 1932. Its cost was \$6,939.85. The third was over Hannabrand Brook about one-half mile beyond #2. It is a concrete slab of 10' and the width of the roadway is the standard 50'. The cost was \$3,744.12. It was started on April 4, 1931 and finished February 11, 1932. The



fourth is the Schoolhouse Road underpass of encased I beams of a clear span of 52 feet plus 2 slab spans of 7' each for the sidewalks. The width of the roadway is 30'. The total length of the structure is 70'. Its cost is \$25,108.96. The total cost of the 4 bridges was \$41,348.43. The work was finally paid for in January 1933.

Route 36                      Section 2. The Keansburg-Atlantic Highlands Road, a distance of 5.28 miles, was paved with concrete 20' wide on the main line and from 40' to 75' wide at the intersections. The work was started on December 10, 1931 and finished and accepted by the State on December 20, 1932. Its cost was \$248,430.84. The depth of the concrete laid was 9".

Route 38                      Section 1. A dual highway from Round Point to the Kings Highway and is part of the relief road parallel to Maple Avenue, leading from Camden to Mt. Holly. Four circles were included in this job as follows: at Browning Road, Haddonfield Road, Coles Avenue, and Route S-41 Intersection. Eight small bridges and the paving of four gaps left on the fills to permit these points to reach final settlement, before paving, was laid. Work on this project was started on September 24, 1931 and finished on December 24, 1932 and accepted by the State on January 10, 1933. The cost was \$581,766.89. The pavement is of concrete 30', 40' and 56' wide by 9" deep.

Eight small bridges were built on this job

by the road contractor at a total cost of \$59,793.68. These were accepted with the road.

Section 3. Mt. Laurel-Hainsport to Pemberton Road, a distance of 3.758 miles, was paved with concrete 20' wide by 9" deep. The work was started on October 10, 1932 and was finished on July 24, 1933. It was accepted by the State on July 25, 1933. Its final cost was \$144,430.69. This project extends from Mt. Laurel Road to the Pemberton Road, connecting the portion of Route 38 from Camden, through Moorestown, with the Pemberton Road leading to Route 39. This section was designed as a dual highway, sufficient right of way being acquired for this type. The roadway was graded full width, but only one 20' pavement was laid, the remainder to be built when traffic increases enough to warrant its laying. For a distance of 1200' west of Rancocas Creek the heavy muck in the swamp was displaced by the use of dynamite during the winter and by the use of check levels it was found that there was no appreciable settlement of the fill in the spring as a result the paving was laid and the work finished on July 24, 1933 and accepted by the State on July 25, 1933. A bridge was built on this section over Rancocas Creek by the road contractor. It is of encased I beams and has a clear span of two 50' plus two 30' sections. The width of the roadway is 56' plus one 6' sidewalk. The total length of the structure is 182'. The work was started on October



28, 1932, and it was completed on July 20, 1933. Its final cost was \$70,097.77.

Section 1-A. An underpass was built having a length of 582'. The construction consists of dual traffic lanes, 27' of paved surface, each side of the 4' center island. The piers of the railroad bridge were constructed on this island. By the construction of this section, an underpass through and under the Pennsylvania Railroad was completed, an existing detour eliminated and a complete route opened to traffic between Camden, Moorestown and Mt. Holly. The cost of the completed work was \$5,832.06.

#### Route 40

Section 8. Kings Highway-Marlton, a distance of 4.654 miles, was paved with concrete, as a two way road, each section paved 20' wide, separated by a 26' island and a 10' gravel shoulder on the outside of each roadway. The work was started on September 8, 1932 and finished on August 8, 1933 and accepted by the State on August 14, 1933. The cost of the work was \$287,687.84.

Section 9. Marlton to Medford, a distance of 6.472 miles, was paved with concrete 20' wide by 9" deep. This work is on a new right of way, eliminating entirely the old Marlton Pike with its many curves. This section was designed as a dual highway, sufficient right being acquired for that purpose. The roadway was grade to the full width in the cuts, in order to

obtain dirt for the fills without borrow. At this time only one 20' concrete line was built, the other 20' strip to be built when the volume of traffic increases enough to warrant it. With the completion of this section, there now exists a complete heavy traffic route between Camden and Lakehurst. The work was started on October 3, 1932 and completed on September 1, 1933. It was accepted by the State on September 12, 1933. Its finished cost was \$244,116.16. Two bridges were built by the road contractor, the first over the southwest branch of Rancocas Creek, consisting of a 12' concrete slab, giving a 40' roadway and one sidewalk 11' wide. The total length was 15.58'. Its cost was \$4,802.80. The other over Haynes Creek, having a clear span of 58', is of encased I beam construction yielding 56' roadway. This job was started on October 13, 1932 and finished on May 4, 1933. Its cost was \$26,271.23.

#### Route 42

Section 7. Grenlock-Wood's Corner, a distance of 3.787 miles, was paved with concrete to the widths of 40', 51' and 65' and a uniform depth of 9". This section was built over the old right of way placing a 2" bituminous surface over the existing concrete pavement on the right and a new 9" reinforced concrete pavement on the left with a grass center 15' wide between them. This is known as the Black Horse Pike, which is a relief road for Route 43, the White Horse Pike from Camden to Atlantic City. Work was started on June 29, 1932 and was completed on November 19, 1932 and accep-



ted by the State on November 29, 1932. The final adjusted cost to the State was \$190,772.08. A concrete slab bridge was built over Big Timber Creek at Grenlock Lake. It has a clear span of 20.16'. The width of the roadway is 32' plus a sidewalk 10' wide. The total length of the bridge is 22.67'. It was started on July 16, 1932 and finished on October 19, 1932. Its finished cost was \$13,088.10.

#### Route 42

Section 8, 1-A & 2-A. Wood's Corner to Williamstown, a distance of 5.391 miles. This is another section of the dual highway. It is built over a new alignment, and is the final section of the road ~~pike~~ from Camden to Atlantic City via the Black Horse Pike and is built for the purpose of relieving the heavy traffic on the White Horse Pike. The pavement is of concrete 30' wide on the main line and widened to 40' and 41' at the road intersections. Its uniform depth is 9". The work was started on June 23, 1932 and was completed on June 17, 1933 and was accepted by the State on June 30, 1933. Its final cost was \$328,615.12.

#### Route 48

Section 25. Pleasantville Relocation. This work extends from the circle on Tilton Road thence across the Pennsylvania Railroad thence along the line of the railroad to Route #4 at Decatur Avenue, a distance of 2.349 miles. The construction of this section is a part of the plan to relocate the Harding Highway in such a manner as to avoid the congestion and consequent delay incident to passing through the

business section of Pleasantville thus furnishing a direct connection to Albany Avenue, Atlantic City. This work embraces the construction of two traffic circles and a divided roadway consisting of two traffic roadways each 20' wide flanked by 10' wide gravel shoulders at each gutter plus 2' wide gravel shoulders on either side of a raised center island. The completed work furnishes two 32' roadways separated by a 16' island. Two traffic circles were built, one at the beginning of the construction on Harding Highway and one at Station #31, where the work leaves Tilton Road. The work was started on October 3, 1932 and was completed on July 15, 1933 and accepted by the State on August 21, 1933. Its cost was \$199,189.24.

Route S-49                      Section 4 & Route 49--Section 11-A. South Dennis to Dennisville and Dias Creek to Goshen. These sections cover the construction of a concrete pavement which had been partially graded in previous years. This work was performed by convict labor operating from the Prison Farm at Leesburg. Much additional work was done under change of plans, to cover additional paving and on the fill settlement and extra stabilization work. The length of the two sections was 4.302 miles. The pavement was of 8" concrete 20' wide except at intersections where it was increased to 40'. The work was started on July 18, 1931 and finally accepted by the State on February 21, 1933. The total cost was \$207,822.28.



STATEMENT OF TOTAL ASSETS AND LIABILITIES

Assets	Dec. 31, 1932	Dec. 31, 1933
Cash Balance	\$14,129,166.39	\$11,412,662.88
*National Indus. Rel. Fund		189,810.52
Mill Tax	117,172.88	245,345.62
Federal Aid	4,320,159.05	2,112,580.74
National Federal Aid Recovery Fund		5,802,853.42
Due from Surplus Revenue of Bridge and Tunnel Commission	2,200,000.00	
Interest on above to Dec. 31, 1931	391,178.39	
Undistributed Material	158,934.25	194,911.08
Due from Sinking Fund Surplus	1,656,206.09	1,656,206.09
Plant & Equipment	<u>651,848.01</u>	<u>572,288.03</u>
	\$23,624,665.06	\$22,186,658.38
*Revolving Fund advanced from National Industry Recovery Funds.		
Liabilities	Dec. 31, 1932	Dec. 31, 1933
Roads	\$ 3,087,143.71	\$ 666,691.78
Bridges	3,253,391.38	2,567,675.77
National Recovery Highway Roads		5,016,127.46
"        "        "        Bridges		978,536.48
County Reimbursement Right of Way	36,611.56	27,185.11
"        "        Roads	54,360.29	394,645.02
"        "        Bridges	4,312.95	34,551.30
Purchase of Right of Way	7,800,376.63	6,801,452.08
Detours	2,500.00	2,600.00
Allotment to Counties for Main- tenance	1,070,190.53	1,102,134.77
Allotment to Counties for Con- struction	243,054.56	164,764.96

Liabilities (cont'd.)	Dec. 31, 1932	Dec. 31, 1933
Allotment to Counties for Reserves \$	674,010.24	\$ 927,801.19
Allotment to Townships for Construction	1,644,478.66	2,045,655.94
Allotment to Townships for Maintenance	280,963.99	255,824.59
Allotment to Purchase of Plant & Equipment		6,819.77
Allotment to Laboratory (New Bldg. Equipment & Appliances)		81,000.00
Allotment to Maintenance of State Highway	261,687.28	430,268.48
Allotment to Approach to Public Institutions		88,083.92
State Aid Appropriation (Ch.#395) P.L. 1912	24,551.73	24,551.73
Surplus Invested in Plant & Equip.	651,848.01	572,288.03
Balance Available	<u>4,535,183.54</u>	<u>                    </u>
	\$23,624,665.06	\$22,186,658.38

All unallotted funds available, taken by State Treasurer to meet Sinking fund and Interest requirements (year 1933, \$5,152,412.22)



### 1934-Route 3, Section 2, Hackensack River Bridge

This is a double leaf bascule bridge with deck girder approaches. The spans are as follows:  
2-117.37'-1-118.75' and 1-185. feet plus 2 approach spans of 50 feet each making the total length of the structure 638.5 feet.

The width of the roadway is 50 feet plus 2, 8 foot sidewalks.

Bids for this structure were received in 1932 but the contract was not awarded until 1933. Work was started on April 10, 1933 and finished on April 9, 1934 and accepted by the State on May 8, 1934. Its completed cost was \$340,853.51

Section 2B. Seacaucus to Monachie Road a distance of 2.171 miles was paved with concrete of the following widths viz:  
20 feet wide, 2,074.83 feet, 40 feet wide, 8,311.31 feet, 50 feet wide, 994.57 feet, a total of 11,380.71 feet.

To this must be added 50 feet of 18 inch and 80 feet of 2 course bituminous macadam 7 inches thick, 80 feet, making a total length of 11,510.71 feet. The work was started October 2, 1933 and finished on June 22, 1934 and accepted by the State on July 2, 1934. The completed cost was \$165,352.89.

### Route 6, Section 1. Hackensack River Bridge.

This work comprised the construction of the entire superstructure of the approaches, and of the bascule span in good working order with all of the motive machinery, also the construction of the substructure except the piers already on place.

The work was started October 3, 1932 and was accepted by the State on August 7, 1934.

The final adjusted cost was \$673,217.45

The bridge consists of the following: 1-90.75 foot span

1-94.00 " "

1-68.25 " "

8-89.25 " "

2-97.41 " "

3-67.08 " "

1-185. Draw

The width of the roadway is 50 feet plus 2.6 foot sidewalks. The total length of the structure is 1600 feet.

The cost of the work over the N. Y. S & W. R. R. is \$19,963.69

" " " " " " " railroad's share .....9,981.85

" " " " " " " West Shore R. R. ....47,243.31

" " share ..... 23,621.65

Section 1F. Overpass over Route No. 2 was built of longitudinal beams (open abutments & piers). The span is 73.5 feet. The width of the roadway is 50 feet plus 2.6 foot sidewalks. The length of the deck is 80.5 feet.

The work was started on January 11, 1934 and completed on June 28, 1934 and was accepted by the State on July 9, 1934. Its completed cost was \$82,113.82. Another overpass was built on this section over the N. J. and N. Y. Railroad. It is of longitudinal I beams and is composed of 1-60 foot 2-42 foot and 1-49.75 foot spans. The width of the roadway is 50 feet plus 2-6 foot sidewalks. The total length of the structure is 233 feet.



The work was started on October 14, 1933 and was finished and accepted by the State on July 23, 1934. Its final cost was \$87,539.75.

Section 1E, Teaneck Road Overpass, starts at the westerly side of the bridge over the Northern Railroad and runs westerly across meadow ground to Teaneck Road, Ridgefield Park, where the same is overpassed by a bridge and two ramp connections. Thence using Winant Avenue, in a westerly direction, it passes through Ridgefield Park to the easterly side of the newly constructed bascule bridge over the Hackensack River. Its total length is 1.134 miles. Between the Northern Railroad and Teaneck Road the embankment was built to allow for settlement. The 1933 contract was for the removal of the overload and the construction of two ramps at Teaneck Road.

The work was started on October 2, 1933 and finished on September 13, 1934. The work was accepted by the State on November 27, 1934. Its final cost was \$120,419.60.

The pavement was of concrete 10 inches deep. Its width was 50 feet on the main line and 30 feet wide on the ramps, and cross streets. A bridge was built on this section by the road contractor. It had a span of 43 feet and a total length of 50 feet. The roadway is 50 feet wide plus 2.6 feet sidewalks. This work was started on February 8, 1934 and was completed on September 13, 1934. It was accepted by the State on November 27, 1934. Its cost to the State was \$29,797.94.

Route 10, Section 4. This is old Route 5 from Salem Street east for a distance of 4.245 miles. Was improved by grading to a width of 80 feet, the work was started in September 29, 1932. Considerable trouble was experienced due to very wet conditions on various stretches. On a section 1500 feet long it was found necessary to raise the grade in order to avoid unstable material and excessive ground water. The major portion of the work was completed November 20, 1933.

This contract was for the grading and bridge building. The work was finished on December 30, 1933. The final cost was \$195,278.08. Three small bridges were excluded from Federal Aid and were built by another contractor. They were as follows:

Over Watnong Brook 2-6 foot spans of encased I Beams-	\$11,929.54
" Mill Brook a 25 foot span       "       "       "       "	18,468.29
" Den Brook a 20.5       "       "       "       "	<u>15,800.68</u>
	\$46,198.51

The roadwork and bridges were accepted by the State on January 8, 1934.

A bridge was built over Route No. 5 on this section having a clear road span of 44 feet plus 2 reinforced concrete sidewalk spans each 6 feet wide. The overall length is 77 feet. The width of the roadway is 74 feet. The work was started on November 6, 1933 and completed on July 11, 1934. Its final cost was \$47,782.83. A bridge was also built on this section over the track of the D. L. & W. R. R. at Morris Plains. It is of encased I beams on reinforced concrete abutments-open piers. The clear span is of 2 sections 23.5 feet each and 1 section 33.5 feet. The total width is 74 feet plus 2-6 foot sidewalks and total length is 98 feet. The work was started on January 20,



1934, and finished on February 21, 1934. The total cost was \$40,210.20.

Route 21, Section 3. Demolition and alteration of Market Building in the City of Newark. The length of the space cleared was 167.15 feet and its width was 100 feet. The work was started on April 8, 1933 and was completed on March 15, 1934. The total cost was \$86,559.00.

Section 2. Poinier St. to Lafayette St. a distance of 1.212 miles was paved with a bituminous concrete surface 3 inches deep on an 8 inch concrete base. The width of the pavement was 72.31-75 and 104 feet. Work was started on July 13, 1933, stopped during the winter, was resumed on March 26, 1934 and completed on June 6, 1934. The completed cost was \$135,746.57.

Section 1. Newark Viaduct from pier No. 16 to Poinier Street an overall length of 1550 feet composed of the following spans, viz.: 6-90 feet, 3-107', 1-178', 1-163 feet plus 305 feet of ramps. The width of the roadway is 44 feet plus 2. sidewalks of 2.75 feet each. The work was started on June 13, 1933, and completed and accepted by the State on August 27, 1934. The finished cost was \$541,547.69.

Route 21-25 and 29, Section 11A, Newark Junction. Paving beginning east of Newark Junction and extending to a point southwest of said Newark Junction a distance of 0.833 miles was paved with concrete of various widths, viz.: 21, 28.5, 30, 40, 44 and 34 feet and a uniform depth of 10 inches.

This work was started on October 2, 1933 and was accepted by the State on April 3, 1934. Its completed cost was \$68,471.77.

Route 23, Section 13, Smith Mills-Pompton Turnpike Road 4.689 miles long. This section extends from Smith Mills to a point near the southerly borough line of Riverdale; the present contract covers the grading and drainage only. Work was started on this job on October 10, 1932 and was completed by the bondsman on December 30, 1933. The cost of the work done was \$226,633.41.

Section 11, Bridge over Singac Brook, consists of a concrete slab of 2-18 foot spans giving an overall length of 40.33 feet. The roadway is 50 feet wide plus 2-6 foot sidewalks. Work was started on June 6, 1934 and finished on November 13, 1934. The completed cost was \$10,332.80.

Section 11, Widening of bridge over D. L. and W. R.R. at Mountain View consisting of 3-50 foot 1-57 foot and 1-70 foot spans. The width of the roadway is 30 feet plus 1-6 foot sidewalk. Length 292.55 feet. It was started on March 20, 1934 and finished on September 29, 1934. Its completed cost was \$71,659.90.

Route 23, Section 13A. Underpass at Miller Road in the borough of Butler was built of longitudinal steel deck beams. It consists of 2 spans of 54.5 feet; the width of the roadway is 20 feet. The overall length of the bridge deck is 115.67 feet. The work was started on August 13, 1934 and was completed on November 27, 1934 and accepted by the State on December 10, 1934. Its finished cost was \$18,231.72.



Route 25, Section 4A. Roadway beautification from Broadway to Tadmores Lane, a distance of 0.783 miles. The federal requirements of spending 1/2 of 1 per cent of the road funds allotted, on highway beautification was effected on three contracts during 1934.

This work consisted of planting trees, shrubs, vines, and grass, the laying of broken stone walks and the building of small foot bridges. The work was started on April 30, 1934 and finished on July 21, 1934 and accepted by the State on July 23, 1934. Its completed cost was \$8,939.64.

Route 25, Section 17, Extension of the underpass at C. R. R. of N. J. on Spring Street, Elizabeth. This consisted of the construction of an additional span adjacent to the existing span so as to provide a divided roadway with one way traffic through each opening. The construction was of through steel girders and a concrete slab. The length of these were 1 of 45 feet, 1-4.5 feet and 1-12.5 feet. The work was started on April 28, 1934 and completed on August 18, 1934. Its final cost was \$48,766.61.

Section 9. From Cinamminson Road to Union School House Road.

This is the first section of Route 25 that was let for widening, due to the heavy travel this was found necessary. The length of this section is 3.013 miles. Its width of pavement is 20 feet on each side of a 16 foot parkway. The total width is 93 feet. The work was started on March 22, 1934 and finished on September 10, 1934. It was accepted by the State on November 27, 1934. Its final cost was \$128,107.35.

Section 10, New Brunswick City Line to Adams Station Road, a distance of 3.158 miles, was paved with concrete 20 feet wide by 10 inches deep. The work was started on March 15, 1934 and completed on October 24, 1934. It was accepted by the State on November 27, 1934.

That portion of Old Route #1 from the New Brunswick City Line to Route 25 was included in this job. The right of way on Route 25 was widened to 120'. The present construction is of 2-10 foot lanes of 10 inch concrete pavement with 10' shoulders on the left roadway. Due to the clay soil and wet conditions paving was delayed until August. The cost of the completed section was \$172,643.32.

Section 11, Adams Station to Deans, a distance of 2.982 miles, was paved with concrete 20 feet wide by 10 inches deep. This work was started on April 27, 1934 and was completed on November 15, 1934 and accepted by the State on November 27, 1934. Its cost was \$156,131.43.

Section 17-A. Spring Street, Elizabeth. The construction of this section eliminated the bottle at the C. R. R. of N. J. and completed the improvement of Route 25 in the Metropolitan district. The pavement of concrete 96' wide plus two 12' sidewalks. The width of the right of way is 120'. The work was started on April 24, 1934 and finished on November 29, 1934 and accepted by the State on December 27, 1934. Its cost was \$81,254.31.

Section 17A, Magnolia Avenue underpass is composed of 2-48foot and 4-28 foot spans. The structure is a longitudinal steel deck supported on girders. The width of the roadway is 22 feet plus



one 5.5' sidewalk. The total length of the bridge is 220'. The work was started on April 24, 1934 and was completed on December 7, 1934. Its cost was \$54,112.91.

Extra drainage was built as follows:

Route 26	Section 1--finished May 22, 1934	\$ 938.53
	Section 2-- " May 22, 1934	14,249.60
	Section 4-- " May 22, 1934	11,414.60.

The very wet clay soil made these necessary.

Route 29                      Section 3-A. Empire Street, Hillside, a distance of 1.487 miles, was paved with concrete 40' wide by 9" deep. This was widened 45', 50' and 65.5' to fit the construction sections. The work was started on April 27, 1933 and completed on December 23, 1933 and accepted by the State on January 2, 1934. The final completed cost was \$151,450.81. Bridge items on this contract consists of the following items:

Public Service Right of way	\$20,864.64
Wing walls L.V.R.R.	18,440.51
Baulistrade and lights	<u>2,093.13</u>
	\$40,398.28

Section 12. Centerville to River Road, a distance of 4.791 miles, was graded to a width of 44', the work was started on September 28, 1932 and was completed on July 27, 1933 and accepted by the State on July 31, 1933. The final payment was not made until January 1934, owing to disputed claims of the contractors. The total cost of the work was \$74,142.10.

Section 10-B. Newark Viaduct, Frelinghuysen Avenue, consists of a through girder plus reinforced concrete spans and ramps composed of the following

spans:	one	68.58'
	two	82'
	one	92.58'
	one	76.08'
	one	4.58'
	nine	41.5'
	fourteen	43.58'
	three	24.5'
	two	25'
	one	64.5'.

The foundation is of concrete on piles. The roadway is 40' wide plus two sidewalks of 2' and 1.5'. The total length of the project is 1732'. The work was started on April 5, 1933 and was accepted by the State on May 8, 1934. Its adjusted cost was \$427,411.80.

Section 11-A. Bridge over South Branch of the Raritan River is an encased I beam structure of three spans of 50' each. The width of the roadway is 40'. The total length of the structure is 178'. The work was started on January 2, 1934 and was completed on September 10, 1934. Its cost was \$43,448.05. It was accepted by the State on November 27, 1934.

Section 12-A. Centerville, River Road, a distance of 3.731 miles, was paved with concrete 20'



wide except at intersection where the width varies from 10' to 30'. This pavement is laid on one side of the graded road, when completed there will be a 26' island in the center. The present pavement is laid on the south side of the right of way. This is the first portion finished on the new 13 miles of alignment between Flemington and Somerville. This new right of way is 120' wide thus forming an ample outlet for this section to the eastern seaboard district. Work was started on October 9, 1933 and was completed on August 22, 1934 and accepted by the State on September 4, 1934. The completed cost was \$147,246.42.

Section 11. Route 30 to the South Branch of the Raritan River, a distance of 2.414 miles, was paved with concrete 20' wide plus 30' wide at intersections. Its uniform depth is 9". This work was started on November 17, 1933 and was completed on September 5, 1934. It was accepted by the State on September 12, 1934. The cost of the finished work was \$131,766.64. The grading on this job was carried on intermittently during the winter. The paving was started on April 30, and finished on June 28, 1934.

Route 30

Section 10. Pennington By-Pass, a distance of 2.764 miles, was paved with concrete but was not finished before the close of the year.

Route 31

Section 7. N. Y. S. & W. R. R. Bridge and Approaches at Hamburg, Sussex County, total length of

the project is 0.242 miles. The pavement is of concrete 40' wide by 9" deep. This work was started on April 3, 1934, and finished on August 23, 1934. It was accepted by the State on September 24, 1934. Its completed cost was \$25,713.89. This project was finished by the construction of a bridge of longitudinal steel girders. Its span is 37'. The roadway is 40' wide and two sidewalks are added, each 6' wide. The length of the bridge deck is 43'. Work was started on March 13, 1934 and finished on August 29, 1934. Its cost \$35,973.44.

#### Route 36

Section 3. Atlantic Highlands-Sea Bright Road, a length of 3.883 miles. This is one of the most modern sections of highway improvement in the State. Two miles of this section runs over a new right of way. The full width of the right of way is graded, top soiled, seeded and landscaped and the whole finished by seeding the slopes. The pavement is widened from 20' to 40' and 54' for a distance of 415' and 130'. Then 3.363 miles were paved with dual roadways 20', 27', 28' and 32' wide and finished with 954' of 9" pavement 30' to 60' wide and the whole trimmed with gravel shoulders 8' to 10' wide. The work was started on January 17, 1933 and completed on October 26, 1933. The work was finally accepted by the State on January 23, 1934. The adjusted price was \$339,813.89.

Sections 1-A and 2-A. Union Beach, Keans-



burg, Widening, a distance of 1.616 miles, was paved with concrete 10' wide by 9" deep, plus two intersections, one of 60', the other of 80'. This is a widening of the existing pavement on the southerly side by the addition of a 10' slab of concrete; and also the reconstruction of 4 interseactions at Port Monmouth, Belford and Leonardo. The only unusual feature of this job was due to the irregular alignment of the southerly edge of the existing concrete pavement.

Section 2, the new pavement crossed four existing concrete pavements. This necessitated the removal of the crowned slabs at these points. The work was started on June 26, 1934 and completed on August 2, 1934. It was accepted by the State on September 12, 1934. The final cost of this job was \$29,457.46.

#### Route 37

Section 8. Lakehurst, Union Bridge, a distance of 0.442 miles, was paved with concrete 20' wide by 9" deep and finished with gravel shoulders 9.5' and 10' wide. The work was started on December 11, 1933 but due to severe winter weather, its completion was not had until May 15, 1934. The area adjacent to the bridge site was swampy hence it was necessary to remove muck to a depth of 5' and refill with suitable dry material. The cost was \$19,075.96. The road contractor also built the bridge over Union Branch on this job. This structure was of Steel I beams encased in concrete. The length of the span

is 30'; the width of the roadway 50'. The work was started on December 11, 1933 and completed on May 3, 1934. The cost of this bridge job was \$10,243.02. The pavement and the bridge were accepted by the State on July 2, 1934.

Section 7. Mercer County Line to Allentown, a distance of 0.573 miles, was taken over from Monmouth County for construction at Allentown, due to the fact that the two bridges at Doctor's Creek required renewal. Since the bridges were only 375' apart, the channels were merged into one and a 30' span encased I beam bridge was constructed. Its cost was \$17,746.24. The 20' concrete paving 20' wide cost \$35,784.92. The bridge and road pavement were accepted by the State on August 13, 1934. To provide for future improvement, the pavement was laid with its center line 20' to the right of the center line of the 100' right of way.

#### Route 38

Section 2-A. Pleasant Valley Avenue--Church Street, a distance of 0.473 miles, roadway beautification. This section is along Lake Strawbridge and a branch of Pensauken Creek, adjacent to Moorestown. The planting and seeding was done to beautify the ground between the highway and the creek on the northwest side of the road. Its cost was \$2,941.44. The work was accepted by the State July 2, 1934.

Section 1-B and Sections on Route 40 known



as 7-A and 8-A plus one on Route 42, Section 7-A; these were all on the divided roadways. This necessitated the planting of the center island strips of 15' to 26' feet in width in addition to the sides. Four traffic circles were included in this work. The total cost of this work was \$14,392.53.

#### Route 40

Section 7. Browning Road, Kings Highway, a distance of 3.49 miles. This is a dual highway which forms a portion of the Camden Lakehurst section of Route 40. The paving consists of two 20' concrete pavements separated by a 26' grass island. Two traffic circles were constructed, one at Haddonfield Road, the other at Kings Highway. The pavement is 9" deep and is widened to 60' at the intersections. The work was started on September 17, 1932 and finished on October 1, 1933. The completed cost to the State was \$329,234.85. The same contractor also built the bridges over Chandler's Run and Cooper River at a cost of \$16,744.80. These were simply concrete slabs.

Section 7-B. Underpass of the P. R. R., a length of 0.348 miles, was paved with concrete in the dual type. The roadways were two 32' wide by 9" thick built with a center island 26'. The work was started on June 16, 1934 and completed on September 21, 1934 and accepted by the State September 24, 1934. The completed cost was \$17,622.40.

#### Route 42

Sections 3-A and 4-A. Newton Creek and Big Timber Creek, a distance of 0.83 miles, was paved

with concrete. The paving of the causeways at Newton and Big Timber Creeks. This contract provided for the completion of the Black Horse Pike with a hard surface pavement. These causeways had been previously overloaded to get stability. The overload excavation was first side casted and later spread over State riparian and private lands. The existing macadam pavement was used in building shoulders. The work was started on June 18, 1934 and completed on October 30, 1934. It was accepted by the State on December 4, 1934. The cost of the completed work was \$60,623.35.

#### Route 47

Section 10. Landis Avenue to Almond Road Vineland, a distance of 0.419 miles, was paved with concrete 20' wide by 9" deep. The work was started on January 31, 1934 and completed on May 25, 1934. It was accepted by the State on June 12, 1934. The cost of the work was \$23,877.29. The completion of this project forms the final link in a hard continuous surfaced pavement from Millville to Westville. The chief work consisted of the building of an 18" storm sewer plus the 20' concrete paving laid to replace the macadam pavement.

Section 9 and Route 49, Section 15. Main and High Streets, Millville. The work consisted of the removal of the abandoned trolley tracks from the brick paved streets and replacing the brick pavement, using as many of the old bricks as possible plus as



many new bricks as were required to complete the job. The ties were originally set in the concrete foundation of the brick pavement. The brick pavement between the rails was only removed in certain sections where deemed necessary and after the rails were removed, the paving bricks were laid so as to bring the surface to a uniform face. The work was started on December 27, 1933 and was completed on April 3, 1934 and accepted by the State on April 10, 1934. The final cost was \$7,578.50.

#### Route 49

Section 7-A. Manumaskin Bridge Approaches having a length of 0.212 miles, were paved with concrete of varying widths of from 20' to 30' and 40' and a uniform depth of 9". This work was started on December 4, 1933 and was completed on January 31, 1934 and accepted by the State on February 20, 1934. The final cost to the State was \$11,866.72. This was the construction of the approaches to the Manumaskin River Bridge which portion was omitted from Section of Route 15 in 1925 construction to provided for the building of a bridge in 1931.

## Revenue:

### Unappropriated balance of previous years

Motor Vehicle fees etc. 1934	\$15,180,220.54	
" " " " 1932	27,425.13	
" " " " 1933	29,370.47	\$15,237,016.14
Gasoline Taxes 1934	<u>16,938,924.37</u>	
" " 1932	<u>64,233.08</u>	17,003,157.42
Bus Excise Tax		77,022.17
Federal Aid (N.I.R.A. Funds)		3,220,879.00
Return of Sinking Fund Loan		5,376,537.15
Bonds--1930 Issue Authorized		6,000,000.00
Miscellaneous Receipts		204,244.58
Total		<u>\$47,118,856.48</u>
Depreciation and Interest charged		
Operating Accounts		90,732.84
Total		<u>\$47,209,589.00</u>

## Appropriations:

State Treasurer--Department Service	\$11,630,026.40
" " Reserves to cover funds	2,458,558.95
Motor Vehicle Department	778,560.00
Motor Fuel Tax Division	55,480.00
Commission on elimination of Toll bridges	61,000.00
Board of Commerce and Navigation	90,000.00
	<u>\$15,073,625.35</u>
State Highway Commission	29,620,239.40
Total	<u>\$44,693,864.75</u>
Unappropriated balance	2,515,724.25
Total	<u>\$47,209,589.00</u>



1935

Route 1

Section 8. From Communipaw Avenue to Danforth Avenue, a distance of 1.433 miles, was paved in two strips of 22' each on either side of a safety isle. The pavement proper was a 2" bituminous concrete surface on an 8" bituminous penetration macadam base. A 5' and 6' shoulder was constructed on each side of the bituminous pavement. A center isle 20' wide was constructed at the same time. This work forms the connecting link between the George Washington Bridge and the midtown and Holland Tunnels and at its completion with the bridge over the Kill Van Kull to Staten Island. The preparation of the base for the pavement was very expensive due to the large amount of borrow due to the subsidence of the fill on the soft meadow base. An other expense was that of building the concrete structure for the protection of the 42" water main under the Lehigh Valley Railroad tracks. The work was started on November 24, 1933, and was accepted as finished by the State on December 18, 1934. The final adjusted statement was approved on March 5, 1935. The total adjusted cost was \$330,436.41.

Route 2

Section 7. This project begins at the northerly end of the "Clover Leaf" grade separation

at the junction of Route 2 and Route 4 and extends northerly through the borough of Paramus and the village of Ridgewood to a point a short distance south of Wearimus Road. The section is located entirely on new right of way and with Sections 8-A to 8-B, which are now under contract, will form the final connecting link on the route. The total length of this section is 5.205 miles. Its widths varied from 40' to 64' on the main highway and from 20' to 30' on the intersection streets. To prepare for future improvement it was graded to a width of 90' between future curb lines, 100' between tops of slopes in fills and 120' between toes of slopes in cuts. The work was started on December 7, 1933 and was accepted by the State on December 18, 1934. It was paid for by the State in January 1935. The completed cost was \$683,557.14. Four small bridges were built by the road contractor. The first over Sprout Brook, a span of 30' with a 90' roadway and a total length of 40'--cost \$18,247.57. Another over Sprout Brook had a span of 16', a roadway of 90' and a total length of 20.5'--cost \$5,535.71. A third over Sprout Brook has a span of 16', a roadway of 90' and a total length of 26'--cost \$5,766.64. The fourth over Saddle River with a span of 43', a roadway of 90' and a 6' sidewalk having a total length of 50'--cost \$11,238.39.

#### Route 3

Section. Removal of bridge and other work on Paterson Plank Road in East Rutherford and



Secaucus. The new bridge was a deck of longitudinal girders and a swing draw span. The spans were as follows: six 45.25', nine 60.17', two 58.08' and one 184'. The width of the roadway was 30' plus two 5' sidewalks. The other consisted of twelve 15' spans and one 170' draw span. The work on both spans was finished on June 25, 1935, and the adjust cost was \$56,112.00.

Route 4

Section 34. Drainage Improvements at Keyport. The 36" cross drain at Battles' Mills Road and 284' of storm drain leading to Chingarora Creek were inadequate. In each case the capacity of the runoff was doubled. The cost of this work was \$9,364.36. The work was accepted by the State on July 30, 1935.

Route 10

Section 6. Underpass at Lake Hopatcong Road having a span of 40' and a roadway width of 24' plus one 6.5' sidewalk. Its total length was 78'. This work was started on April 9, 1934 and finished on November 28, 1934. It was accepted by the State on January 14, 1935. The cost of the finished work was \$22,627.14.

Section 5. Bridge over Ramp at Morris Turnpike. This is a longitudinal steel deck beam structure having a clear span of 34' and a roadway width of 100' consisting of two roadways of concrete each 42' wide divided by a central parking space of 16'. The overall length of the bridge deck is 39.67' and the work was started on January 10, 1935 and

finished on May 23, 1935. The cost of the finished bridge was \$39,531.95.

Section 4-A. From Route 5-N to Salem Street, a distance of 3.66 miles, is paved with concrete to various widths viz., 20', 20' on each side of divided roadway, 9" deep. This is a dual highway on new alignment starting at the westerly end of Route 10, Section 4, Salem Street, and running. The widths on the ramps is 25', at the road intersections this is 20' and 50'. The graded widths are as follows: 90' between tops of slopes in fills and 100' between toe of slopes in cuts. The paving of the shoulders was of an average thickness of 8" and was laid 2' wide on each side of center island and 10' wide on the outsides, the material was slag. This work was started on April 16, 1934 and was finished on May 29, 1935. It was accepted by the State on June 11, 1935. Its total cost was \$355,399.33.

Section 6. Saccasunna to Lake Hopatcong Road, a distance of 3.093 miles, was paved with concrete 22' wide on the main stem and widened to 40', 84' and 100', the ramps were also paved to the widths of 20', 22' and 24' and a uniform depth of 9". This work was started on December 12, 1933 and finished on August 6, 1935. It was accepted by the State on November 6, 1935. The completed cost of the pavement was \$407,048.82. Five bridges were built on this job by the road contractor at a total cost of \$22,002.14.



Making the total cost of the job \$429,050.95. This job, built over new right of way, with separated roadways, having a traffic circle at the junction of Route #6 at Ledgewood and a grade separation at the Lake Hopatcong Road involved the handling of heavy wet excavation under water to depth of 11' and large rock cuts. A large quantity of borrow excavation was required, over one-half of which was supplied to the job by means of hydraulic fill. The completion of this section together with the adjoining section south of Dover gives traffic a more direct route to Newark and relieves Route #6 through Dover.

#### Route 10

Sections 4-B and 6-A. Highway beautification. This project begins at the intersection of old Route #5-N, with Route #10 and runs westerly through the borough of Morris Plains and the townships of Parsippany-Troy Hills, Denville and Randolph ending at the Salem Street intersection and resuming at the Morris Turnpike intersection in Succasunna from whence it extends through the townships of Randolph and Roxberry to the Lake Hopatcong Road. This work includes the planting of shade trees, flowering shrubs, vines, etc., in the center line islands on curves only, in the areas between the ramps at grade separations and in the traffic circles. The cost of this improvement was \$3,477.88.

#### Route 23

Section 13-A. Smith Mills--Pompton Turnpike, a distance of 4.622 miles, was paved with con-

crete 40' to 80' wide by 9" deep with shoulders 5' and 10' wide by 9" to 6" deep. This project was graded under a previous contract last year, all heavy grading being completed with the exception of fills at two box culverts. The grading started in 1933, was stopped during the winter and resumed in April 1934 and the whole job was finished on December 4, 1936. It was accepted by the State on January 8, 1935. The completed cost was \$346,831.58. A bridge was built over the N. Y. S. & W. R. R. at Station 6. It was of steel through girders and consisted of eight spans, of the following lengths viz., two 70', four 75', one 20' and one 37' long. The width of the roadway is of two 24' sections. The deck was 513.37' long and extended across the Pequannock River and Kileout Brook. The cost of that over the branch of the Pequannock River was \$7,184.36 and that over Kileout Brook was \$17,338.48. These were paid for in one cheque of \$24,522.84 on January 9, 1935.

Section 11. Packanack Lake Road. This work starts at a point 900' north of the intersection of Routes #6 and #23 and follows the alignment of the Newark and Pompton Turnpike with a 40' pavement and a 5' shoulder on each side to Station 130, where a center island begins with a 30' pavement on the west side and a 20' pavement, with a 10' shoulder on the east to Station 133+50, where a 30' pavement



on both sides starts. This island increases gradually from 4' at the start to 13.5' at the bridge over the D. L. & W. R. R. From Station 130 on the east side, new right of way was acquired over which the north bound roadway is built to the new bridge over the D. L. & W. R. R. adjacent to the old structure. The center island increased in width from 13.5' north of the bridge to 16' at a point north of New Street, here the pavement is reduced to 20' on each side of the center island and finished with 10' improved shoulders. From the clay pit pond at Station 159, the north bound road is on new right of way and the southbound road follows the old turnpike to the Traffic Circle at New York Avenue. The road then continues along new right of way 120' wide to a point 300' south of Packanack Lake Road to the end. The length of this section is 2.743 miles. The work was started on March 14, 1934 and was finished and accepted by the State on May 10, 1935. The final adjusted cost was \$306,127.67. Two bridges were built under this contract. The first over Singac Brook was a concrete slab of two spans of 18' each having a roadway 50' wide plus two sidewalks each 6' wide. The length of the bridge deck was 40.33'. The work was started on June 6, 1934 and was completed on November 13, 1934. The other was a concrete slab 10' long and the roadway was of two sections each 30'

wide. This was completed on July 26, 1934. These two bridges were included in the road contract and were paid for with the road on January 11, 1935. The total cost was \$16,778.07.

#### Route 23

Section 12-B. A bridge was built over the Erie R. R. in Pompton Plains. It was of longitudinal steel deck beams and consisted of three sections viz., one 40.75', one 49.58' and one 58' long. The roadway consisted of two 34' sections separated by a 6' island. The total length of the structure was 156' and the work was started on February 11, 1935 and was completed on July 19, 1935. It was accepted by the State on August 6, 1935. Its completed cost was \$59,555.76.

Section 12-C. A bridge was built over the Pompton River at the county line between Passaic and Morris Counties. It is of longitudinal steel deck girders and is composed of five spans as follows viz., one 32.17', one 38', one 37', one 53' and one 54' long. The width is of two 34' strips separated by a 6' island to this is added two sidewalks each 6' wide. The total length of the structure is 312'. The work was started on April 29, 1935 and it was completed on September 16, 1935 and accepted by the State on September 18, 1935. Its final completed cost was \$150,023.19.

Section 12-A. The road from Packanack Lake to Pompton River, a distance of 1.335 miles, was paved



with concrete from a point just south of the Packanack Lake Road to and around the circle one mile north. This pavement was of two strips of concrete each 20' wide laid on either side of a 16' grass island plus 2' stone shoulder on each side. The job was finished by placing 10' stone shoulders on the outside on each side. The northern end was graded from the circle to the Pompton River, the paving of the remainder to be done as part of the northern section beyond it. The work was started on October 5, 1934 and was completed and accepted by the State on August 28, 1935. The completed cost of the work was \$116,925.83. A concrete slab bridge having a span of 10' was built by the road contractor. The width of the roadway is 60' composed of two 20' strips of concrete separated by a 20' island. The completed cost was \$3,994.68.

#### Route 24

Section 21-A. Bridge over D. L. & W. R. R. at Port Colden. This is a reinforced concrete overpass over the Morris and Essex Division of the D. L. & W. R. R. The length of the span is 33.5'; its overall width is 173', the width of the roadway is 40'. The work was started on July 19, 1934 and was completed on March 8, 1935. It was accepted by the State on May 1, 1935. The cost of the completed work was \$57,877.86.

Section 21. The approach to the bridge described above. Its length is 0.357 miles. It was paved with concrete 30' to 40' wide for 670' and the

remainder was 40' wide. The width was increased by two sidewalks 6' wide on each side. After this contract was awarded, the bridge design was changed to a rigid frame type which provided for regular pavement to be carried across it, thus increasing the yardage of pavement by 723 sq. yds. This section eliminated two right angle turns which have been the cause of a great many accidents. The work was started on March 22, 1934, was stopped for four months because of the bridge work; then stopped by freezing weather and was not resumed until May 1, 1935. It was finally finished on June 29, 1935 and was accepted by the State on August 13, 1935. The finished cost of the job was \$56,119.72.

Route S-24                      Section 2. Union - Springfield, a distance of 2.317 miles was paved with concrete 40', 44', 46', and 64' wide by 9" deep and finished with 3' shoulders. The work was started on June 3, 1935 and finished and accepted by the State on November 12, 1935. This project completes the paving of Morris Avenue from the westerly end of Section 1 to Route #24 at Springfield. The pavement consists of two 32' lines each side of a 7' center island to Stuyvesant Avenue and a 40' concrete pavement with 3' combination curb and gutter thru the business section of Union and a 3' improved shoulder for the remainder. The total cost of the



improvement was \$202,637.75. The Rahway River bridge on this section, was reconstructed by the extension of the deck of the existing arch bridge giving a 40' roadway plus two 6' sidewalks. This work started on June 23, 1935 and finished on October 10, 1935. The cost of this work was \$1,728.27

#### Route 25

Section 11. Adams Station Road to Deans, a distance of 2.982 miles, was paved with concrete 20' wide by 10" deep. Sections 10 and 11 of this route are either a portion of or follow very closely the old Queen Ann's Highway, later called King George's Road. The original road was laid out in 1738, with a width of 86' and was the main route from New Brunswick to Bordentown. Owing to the heavy wet clay sub-soil the grading was completed on the entire section before paving was started. This helped very much to dry out the sub-grade. The pavement was laid on the southerly side of the road and consisted of a 20' concrete strip plus a 10' stone shoulder on each side. The work was started on April 27, 1934 and was completed on November 15, 1934 and was accepted by the State on November 27, 1934; paid for in 1935. The completed cost of the pavement was \$156,131.43. Two bridges were included in this contract; one over Lawrence Brook, a concrete slab of 10' span with a 40' roadway--its cost was \$3,600.25. The other over Oakley's Brook, also a concrete slab with a 18'

span, a roadway of 40' and an overall length of 18.67'. Its cost was \$4,848.50.

#### Route 25

Section 17-A. Spring Street, Elizabeth, a distance of 0.205 miles, was paved with concrete on a divided roadway 73' to 80' wide and to a depth of 10" over a six span bridge overpassing the C. R. R. and Magnolia Avenue. The work was started on April 24, 1934, and finished and semi-finally accepted by the State on December 27, 1934. The work was finally accepted by the State as finished on June 18, 1935. The cost was \$81,254.31. The cause for the delay was the seeding of the slopes.

Section 12. Bridgeboro - Cinniminson Road, a length of 4 miles. This is a section of the heavily travelled route between New Brunswick and Camden which was overtaxed for sometime. A dual roadway is built by using the existing 20' asphalt pavement and construction a new 20' 9" concrete roadway along side. A 18' island with crossovers about 300' apart is placed between the new and old pavement. A 10' gravel shoulder is placed on the outside of each roadway. The concrete paving was started on this section on October 28, 1934 and was completed on June 24, 1935. All of the work was completed on August 6, 1935 and accepted by the State on August 20, 1935. The final cost was \$211,816.30.



The Sweeds Run Bridge on this section has a 15' span, a roadway of two 20' sections separated by a 16' island. The length of the bridge deck is 18'. Its cost was \$4,236.30. The other bridge was built over Pompeston Creek. It is a concrete slab extension having a span of 22'. The roadway consists of two 20' concrete sections separated by a 16' center island. The finished cost was \$6,507.60. This was paid for at the same time as the road.

Section 13. From the Beverly - Rancocas Road to Bridgeboro, a distance of 1.253 miles is another section of Route 25 widened into a dual roadway to promote safety. The new traffic lane is built 20' wide and 20' away from the present pavement. The concrete is 9" deep. By the addition of gravel we have a 32' traffic lane on each side of the 20' center island. The cost of this improvement was \$69,642.88.

#### Route 29

Section 11. Bridges over C. R. R. & L. V. R. R. were built by the same contractor as they were less than 400' apart. That over the C. R. R. of N. J. at Three Bridges is of longitudinal steel deck girders composed of two 35.5' and one 40' span having a roadway 40' wide and a bridge deck length of 120'. Its completed cost was \$22,713.04. That over the L. V. R. R. was of the same general structure. It

consists of two 44' and a 70.5' spans. Its deck length was 172'. Its finished cost was \$38,368.92. Both bridges were started on August 15, 1934 and were finished on January 7, 1935 and accepted by the State on January 19, 1935.

#### Route 28

Section 12-B. Bridge over North Branch of the Raritan River is a reinforced concrete arch structure composed of one 64' and two 56' spans. The roadway is 40' wide plus two 5' sidewalks. The total length is 255'. This structure was started on May 17, 1934 and was completed on May 31, 1935. Its cost was \$71,586.38. It was accepted by the State on June 18, 1935.

Section 12-B. From Route 28 at Somerville to the River Road, a distance of 3.177 miles, was paved with concrete 20' by 9" deep on the main line and widened to 40' at the circle and at the underpass. This pavement is laid on the south side of the new right of way of 120'. The work was started on April 9, 1934 and was completed on May 21, 1935. It was accepted by the State on July 9, 1935. Its cost was \$203,238.91. This contract was not finished during 1934 because of the non-completion of the underpass bridge at the C. R. R. and the Raritan River Bridge, as these were separate contracts carried on by others.



Section 11-A. South Branch of the Raritan River, Centerville, not finished.

Route 30

Section 10-A. Pennington Traffic Circle at the Washington's Crossing Road, a length of 0.392 miles, was paved with concrete in varying widths of from 25' to 40'. It was deemed advisable to construct a traffic circle at the Washington Crossing Road so this portion of Route 30, Section 10 was eliminated from the main contract and a separate contract let. The work was started on September 24, 1934 and completed on May 13, 1935 and accepted by the State on June 4, 1935. Its cost was \$43,631.55.

Section 10. Bridge over Delaware and Bound Brook Railroad at Pennington consists of continuous longitudinal steel deck beams. The spans are one 74' and two 37'. The roadway consists of two sections each 24' wide separated by a 4' center island. The overall length of the bridge is 151.80'. The work was started on August 28, 1934 and completed on May 15, 1935. The cost was \$47,576.59. It was accepted by the State on May 21, 1935.

Section 8-A. Bridge at Hampton is a longitudinal steel deck girder composed of two 35' and one 92' spans across the C. R. R. of N. J. tracks. The width of the roadway is 40' plus two 8' sidewalks; the total length of deck is 185'. The work was started on October 30, 1934 and it was finished on May 29, 1935. The total adjusted cost was \$58,294.08.

Approaches to the overhead crossing of the C. R. R. of N. J. could not be completed until the bridge over the railroad was well advanced. This occurred in the spring of 1935, thus allowing the approach slabs to be completed in time to open the section to traffic on May 30, 1935. This opening allowed the Hampton By-pass to be used, which use had been delayed for the completion of the crossing of the C. R. R. since 1931 when Route 30 was completed through Hampton. The cost of this work was \$16,603.19. It was accepted by the State on July 9, 1935. The length of the project was 0.308 miles and that of the pavement previously laid measured 0.067 miles, plus new concrete--0.186 miles, plus asphalt block--0.036 miles: Total of 0.308 miles.

Route 30                      Section 10. Pennington By-pass, a distance of 2.764 miles. This section was designed to carry the traffic around instead of through the boro of Pennington. This work was started on April 9, 1934 but was not completed during the year because of the bridge being built over the Delaware and Bound Brook Railroad, under a separate contract being uncompleted. This bridge was completed on May 14, 1935 and accepted by the State on May 21, 1935. Work on the road was resumed May 29, 1935 and was completed on September 27, 1935 and accepted on December 7, 1935. The



length of this section is 2.764 miles. This length was reduced by deducting the Pennington Traffic Circle, a length of 0.274 miles. The pavement is of concrete 20' wide except 3210' of dual roadway, 24' wide separated by a 4' white concrete island at each side of and across the bridge over the railroad. The work was paid for on December 17, 1935. A bridge over Baldwin's Creek having a span of 16', a roadway of 40' and a total length of deck of 19.67' was included in the road contract making the total cost \$172,024.39.

Route 31                      Section 4-A. Somerville By-pass , a distance of 1.78 miles, was started on February 18, 1935 but was held up due to the necessity of changing the line and grade of a 36" water main by the Somerville Water Company and the construction of an under-pass below the tracks of the C. R. R. of N. J.

Route 35                      Sections 3-B & D. Shark River Bridge Approach and River Avenue, Belmar, a distance of 1.399 miles, was paved with concrete 10' to 40' wide by 9" deep. The work was started on January 18, 1935 and was completed on October 12, 1935, accepted by the state on October 22, 1935. The total cost was \$109,022.49. This contract covered the paving of the approaches to the two Shark River Bridges. Also, River Avenue, Belmar was widened to provide a dual highway by using the existing concrete for pavement

and laying a new 22.75' concrete pavement on the Shark River side. A 16' island separates these roadways. The river bank was widened by the use of 37,000 cubic yards of borrow and excavation. Curb was placed along the river side and used in the islands to the extent of 11,340'. The slopes of the new fill along Shark River were protected by a revertment of cement bags filled with a 1-3.5 mix of cement. In some locations these were placed in a double thickness. Not included in this contract but included in the cost of the project was the cost of the adjustments made in the following utilities.

Borough of Belmar (water & sewer) \$2,293.21

New Jersey Bell Telephone Co. 202.43

#### Route 37

Section 3-A. Cedar Lane to Park Avenue, a distance of 0.632 miles. The purpose of this project was to eliminate the dangerous condition of the abandoned double trolley track area. This was done by the construction of a 10' to 12' center island with standard 8" face white concrete curb. Openings in this island were placed at intersecting streets. This left a strip on each side of the island of less than 5' in width, which under this contract was paved in addition to the island openings with an 8" concrete base and a 2" asphalt top. The work was started on May 23, 1935 and was completed on July 26, 1935. It was accepted by the State on August 20,



1935. The cost of this improvement was \$24,689.35.

Route 42

Sections 7 & 8. Drainage. Turnerville & Williamstown. These drainage improvements were very badly needed. At Turnerville the water discharged from the State Highway had been flowing down a semi-private road and had not only made this road impassable by converting it into a ravine five or six feet deep, in places, but had also done considerable damage to an adjacent farm by depositing the washed out material to depths varying from 2" to 2'. The new construction consisted of 2,200' of 18" storm drain pipe with 4 inlets and three manholes. The outlet is at the Big Timber Creek below the spillway to the Neely Pond. At Williamstown the damage consisted in rain water from the highway flooding the Sicklertown Road, west of the highway and the adjacent property and also it flooded the farmland on the east side of the highway north of Paplar St., 2,000' of 18" storm drain and 10 inlets were required to relieve this situation. The work was started on May 22, 1935 and completed on July 10, 1935. It was accepted by the State after inspection on July 30, 1935. The final cost to the State was \$10,404.80.

Route 44

Sections 1-A & 6. Paulsboro and West Deptford Townships, a distance of 1.179 miles, was paved with concrete 20' wide except through Paulsboro where it was widened to 50'. The widening of this originally designed 20' pavement to a paved width of 50' invol-

ved many difficulties in curb and sidewalk adjustments, these in turn caused adjustments in property lawns and entrances. Several long delays were experienced by reason of requests for these changes. The work was started on March 13, 1934 and was completed on October 11, 1934. The work was accepted by the State on November 27, 1934 but was not certified for payment until February 21, 1935. The adjusted amount of this was \$99,184.78.

#### Route 44

For the complete repair of the Dikes at Raccoon and Oldman's creeks, consisting of the closing of breaches with earth embankment, steel sheet piling, wood sheeting and timber piles, the filling of holes, porous spots and low spots in the dikes and plugging old sluices with earth embankments. This work was started on August 9, 1934 and due to unavoidable delays, was not completed until July 12, 1935. It was accepted by the State on August 6, 1935. The adjusted cost was \$16,306.30.

#### Route 48

Section 27. Underpass at Seashore Lines, is built of steel through girders of two spans, one 45', the other of 47'. The roadway is double and consists of two 32' roadways separated by a center parking space and flanked by two 8' sidewalks. The work was started on September 25, 1934 and was finished and accepted by the State on May 7, 1935. The finished cost of the



work was \$28,215.73.

Section 25. Drainage at Pleasantville.

This project was designed to relieve a condition which caused an excess of water from the highway to be deposited on valuable farm land between Noah's Road and Doughty Road and an excessive wash on the shoulders of the highway between Doughty and New Roads. The length of this section was 0.441 miles. Its completed cost was \$3,107.99.

Route 48

Section 27. Pleasantville Relocation, a

distance of 0.866 was paved with concrete in two 32' strips separated by center islands varying in width from 6' to 16' wide. This project is located between New Road and Main Street in the city of Pleasantville. This is a dual highway with full width concrete pavement, concrete curbs, storm water drainage and other incidental work. An underpass was constructed under the tracks of the Shore Fast Line under a separate contract. A storm water sewer was constructed for the entire length of the job and continued down the center of Verona Avenue to Lyons Court and thence to Tunis Basin, the outlet. The original work was completed March 27, 1935, and opened to traffic. The final adjusted cost was \$121,369.01.

Route S-49

Section 4. Green Creek to Dias Creek Road

and Storm drain at South Dennis. A distance of 3.001

miles was paved with concrete 20' wide by 9" deep.  
The work was started on December 20, 1934 and was  
completed on July 29, 1935 and accepted by the State  
on August 13, 1935. Its completed cost was \$118,651.92.



# STATEMENT OF REVENUE AND APPROPRIATIONS

Year - 1935

## Revenue

Unappropriated balance of previous years	\$	614,172.54
Motor Veh. fees, fines, etc.		
1935-	\$16,233,579.25	
" " " " etc.		
1932-	1,034.11	
" " " " etc.		
1933-	<u>10,047.41</u>	16,244,660.77
Gasoline Taxes etc. 1935	\$17,698,484.74	
" " " 1932	<u>25,693.22</u>	17,724,177.96
Bus Excise Tax		85,998.23
Federal Aid		1,675,751.00
Miscellaneous Revenue		387,178.30
Appropriations of 1934 cancelled & Re-appropriated 1935		<u>4,400,000.00</u>
Total Revenue		\$41,131,838.80
Depreciation & Interest charged operating accounts		<u>76,436.19</u>
		\$41,208,264.99

(Appropriations: over)

# Appropriations

State Treasurer, Debt Service	\$13,208,236.40
State Highway Department Mandatory	
Deductions: County Aid	\$6,735,000.00
Township Aid	2,310,000.00
County Reimburse.	<u>1,017,701.00</u>
	10,062,701.26
State Highway Dep't. for Admin. Eng.	
Inspection, Construction & Maintenance	13,614,397.50
Motor Vehicle Department	782,080.00
Motor Fuel Tax Division	111,180.00
Board of Public Utility Commission	2,000,000.00
Board of Commerce & Navigation	<u>90,000.00</u>
Total amount of appropriations (1935)	\$39,868,595.16
Unappropriated Balance	<u>1,339,669.83</u>
Total	\$41,208,264.99

## Note:

Amount borrowed by the Governor for the Emergency Relief Department - - - - - \$5,391,423.85  
 not included above. This amount, if not returned to the fund, is to be provided for from the revenues of 1936.



# STATEMENT OF TOTAL ASSETS & LIABILITIES

As of December 31, 1935

Assets	Dec. 31, 1934	Dec. 31, 1935
Cash balance	\$13,943,175.47	\$ 9,720,073.41
" " (Nat'l Ind. Rec. Fund)	238,100.91	57,162.89
Due from other departments on account of 1934 funds	3,035,859.20	1,898,075.43
Federal Aid		1,660,752.84
National Recovery Highway Fund	4,465,039.94	2,590,589.22
Mill Tax	245,345.62	
Due from Sinking Fund Surplus Act I	1,656,206.09	
1930 Bond Issue Authorized	6,000,000.00	6,000,000.00
Undistributed Material	191,016.92	199,961.91
Plant & Equipment	540,969.44	571,511.25
Loan to Emergency Relief Dept. (Chap. 60, P. L. 1935)		5,391,423.85
Amount due from Federal Government		<u>115,639.30</u>
	\$30,315,713.59	\$28,205,190.10

# Liabilities

	Dec. 31, 1934	Dec. 31, 1935
Roads	\$ 3,329,981.80	\$ 3,394,285.33
Bridges	622,441.67	1,731,942.31
Bal. of Const. Program	12,123,274.71	8,394,444.68
County Reimburse. R. O. W.	1,650.00	
"        "        Roads	123,884.80	
"        "        Bridges	4,594.15	
Purchase of Right of Way	6,097,011.11	5,911,156.19
Detours	2,549.69	
Allotment to Counties for Maintenance, etc.	1,866,174.88	2,499,178.27
"    To Townships & Boros for Construction	1,726,481.61	2,098,549.69
for Maintenance	237,057.69	258,757.93
Purchase of Plant	26,668.67	84,862.86
Laboratory-New building	98,544.74	4,619.94
Maintenance of Highways	484,315.65	630,532.21
Approaches to Institutions	78,377.64	121,936.29
Interest & Sinking Funds on 1930 Bond Issue	120,445.00	
State Aid Appropriation (Chap. 595, P.L. 1911)	12,789.03	12,789.03
Surplus Interest in Plant	540,969.44	571,511.25
Allotment for Administration		
Engineering Inspection & Right of Way	304,907.06	550,984.29
Unappropriated Balance	<u>2,515,724.25</u>	<u>1,339,669.83</u>
	\$30,315,713.59	\$28,205,190.10



## Maintenance

Total mileage of State Highways under main.	\$	1,561.70
" " taken over for construction only		<u>98.54</u>
Total Highway System Dec. 1935	\$	1,660.24

## Schedule of Mileages of Highways under Maintenance as of December 31, 1935

Concrete	1,266.707
Macadam	37.173
Gravel	81.029
Asphalt--Bituminous Concrete	234.280
Bituminous Macadam	58.063
Stone Block	7.612
Brick, Earth Asphalt Block	<u>19.841</u>
Total under maintenance	1,704.705

## Maintenance cost by type of pavement

Concrete	\$ 1,006.864.46
Bituminous Concrete Stone Base	232,532.70
Bituminous Concrete Concrete Base	123,799.77
Stone Block	28,864.86
Macadam	46,827.80
Gravel	70,259.96
Bituminous Macadam	85,393.32
Brick	2,859.23
Dirt, Cinders, Etc.	<u>5,127.07</u>
Total	\$ 1,602,629.26

1936

Route 2, Sections 8A and 7A. Allendale Avenue and West Saddle River a distance of 3.470 miles was paved with concrete on a divided roadway of the following widths; viz, 40-44 and 84 feet and to a uniform depth of 10 inches. The work begins at Allendale Avenue and extends to the West Saddle River Road.

The work was started on January 12, 1935 and was completed on June 2, 1936. The completed cost was \$471,386.45. It was accepted by the State on June 16, 1936.

Sections 8B and 9. From a point north of Ramapo Avenue to Allendale Avenue and the widening on Section 9. The length of this section is 2.814 miles. It is paved with a double line of concrete separated by a central island. The divided portion consists of 2-20 foot strips; at road intersections this width is increased to 84 feet. The depth of the concrete is 10 inches.

The work was started on January 10, 1935 and was completed on June 2, 1936 and accepted by the State on June 16, 1936. Its cost was \$334,568.08. Included in the above amount is the cost of a culvert built over a branch of Ramsey Brook. The adjusted cost of which was \$10,099.67.

Laboratory Building at Fernwood, heating and ventilating work accepted February 7, 1936. Cost \$14,754.00.



Routes 6 and 23, Section 14. Erie Railroad Grade Crossing Elimination at Singac. The work on this job was started on May 28, 1935 and due to the interference of the other work was delayed. The Greenwood Lake Branch of the Erie Railroad which had two grade crossings within the limits of this contract, was elevated and these two bridges were constructed over the north and south legs of the circle. The work was finally completed on May 14, 1936, but owing to unsettled claims, the work was not accepted by the State until June 23, 1936. The final adjusted cost was \$102,011.29.

Section 7. Overpass Grand View Boulevard. The length of these spans were as follows: viz, 1-61 feet and 2 10.33 feet. The overall width is 85 feet and the roadway consists of 2 sections each 32 feet wide separated by a 6 foot island, and two sidewalks each 8 feet wide. The superstructure consists of steel beams encased in concrete, and a concrete deck slab the roadway part of which is waterproofed and paved with asphalt block.

The work was accepted by the State on August 11, 1936. Its adjusted cost to the State was \$54,844.36.

Route 6, Section 7. Clifton to Hasbrouck Heights Road a distance of 4.477 miles was paved with concrete to the widths of 40, 50, and 64 feet. The ramps to that of 20, 25, 30, 35 and 40 feet all to the uniform depth of 10 inches. A center island 16 feet wide divides it. This section begins at Routes 3 and 4 on the west bank of the Passaic River on the

dividing line between the cities of Paterson and Clifton and extends easterly to the intersection of Routes No. 2 and 6 in Hasbrouck Heights. The alignment is over new right of way for its entire length. This project completes Route 6 from the George Washington Bridge westerly to the Passaic River. There remains only the portion between the Passaic River and Totowa Borough to complete Route No. 6.

This work was started on January 16, 1936 but was not finished until 1938. The bridges, however, were finished accepted and ordered paid for on December 16, 1936. The cost of the 7 bridges amounting to \$183,565.16, was approved by the State on December 16, 1936. The work on the road was accepted by the State and the adjusted cost oked. It was \$1,238,323.19, but the money was held up pending settlement of claims.

Route 6, Section 7. Bridge over Saddle River and Overpass at Main Street. The bridge over the river is composed of 2-50 foot spans having an overall width of 85.17 feet and a roadway width composed of 2-32 foot sections separated by a 16 foot island. The bridge was of longitudinal steel beams and concrete slabs. That over Main Street has a single span of 43.08 feet an overall width of 83.41 feet and a road width of 70 feet separated by a 16 foot center island. The bridge being of the same type as the saddle River Bridge. Their completed cost was \$98,683.59. The work was accepted as finished on October 30, 1936.

Section 7. Two more bridges were built on this section, over over Terrace Avenue having a span of 52.60 feet This was built of longitudinal steel beams and topped by a



concrete slab the other over Route Number 2 South, having a clear span of 54 feet plus 2-12.5 foot spans over the sidewalks on either side. The overall width of this was 65.5 feet and a roadway width of 50 feet; this was also built of longitudinal steel beams and finished with concrete slabs. The work was started on March 10, 1936 and completed on November 8, 1936. It was accepted by the State on December 1, 1936. The completed cost was \$96,781.16.

Route 8, Section 4A. Delaware to Columbia and Route 6 near Manunka Chunk 1.27 miles. This contract is for a rock slope protection on the westerly side of the highway along the bank of the Delaware River. The work was started on August 7, 1936 and completed on December 1, 1936. The final cost was \$101,412.20. The reason for the increase of cost above the estimate is that for 1000 feet the bank along the river consists of a very fine sandy loam covered in places, with a light layer of shale. An examination of this bank was made and in order to prevent erosion in time of high water and to secure proper foundation for the rock, cement bags filled with concrete in the proportion measured by volume of 1 of cement to 6 parts of natural bank run sand and gravel were laid closely with stagger joints the entire surface was then pounded flat in such a manner as to close the openings and make a uniform surface. The average thickness of this wall was 1.3 feet measured at right angles to the slope.

Route 10, Section 5. Salem Street, Succasunna a length of 5.274 miles was paved with concrete to a width of 40 feet, composed of 2.20 foot strips on either side of a center island 16 feet wide. The work was started on October 25, 1934. An extension was granted and the work was finally accepted on June 16, 1936 . The cost of the finished work was \$702,427.74.

Route 21, Section 3. Lafayette Street and Mulberry Street in the City of Newark a distance of 0.446 miles was paved with 3 inches of bituminous concrete on an 8 inch concrete base the whole was paved for the entire width of 78.90 and 100 feet. The work was started on May 29, 1935 and was finally completed and accepted by the State on July 14, 1936. The completed cost was \$81,586.03. This project lies within the City limits of Newark and parallels the Pennsylvania Railroad. The work was completed with the exception of that portion lying within the areas necessary for the construction of the New Central Railroad of New Jersey Bridge. This contract was completed and finally accepted on July 14, 1936.

Route, 21, Section 4A. Mulberry to Clay Streets a distance of 0.837 miles was paved with 3 inches of bituminous concrete on an 8 inch concrete base and the whole width of the roadway, viz, 50.70 and 80 feet. The work was started on September 28, 1935 and was completed and accepted by the State on October 6, 1936. The total cost to the State was \$134,308.23.



Route 23, Section 12C. Black Oak Ridge Road & Jackson Avenue, a distance of 1.785 miles, was paved with concrete in 2 strips each 20 feet wide separated by an island 16 feet wide with a 2 foot stone shoulder on the inside and a 10 foot improved stone shoulder on either side, outside; the concrete was 9 inches deep throughout.

The work was started on February 11, 1935 and was finally completed on May 18, 1936 and was accepted by the State on June 16, 1936. The completed cost of the road was \$195,451.30. Two small bridges were included in the contract. One over a branch of Pompton River, a concrete slab with an 8 foot span and roadway width of 2.32 foot strips of concrete separated by an island of 16 feet. The other over another branch of the Pompton River of the same structure but with a 12 foot span. The cost of these 2 bridges was \$10,439.60. They were accepted with the road.

Route 23, Section 12B. Jackson Avenue, Rivardale a distance of 1.497 miles, was paved with concrete to a width of 20 feet on each side of a 20 foot center island and for a depth of 9 inches, this length included 50 feet of 18 inch bridge approach slabs. In this job there are included 3 traffic circles. This project is part of the relocation of the Newark & Pompton Turnpike (Route 23). For about one half of its length this highway runs over a new right of way. The remainder consists of the reconstruction of the old pavement plus a widening on the east side. The work was started on February 4, 1935 and was completed on November 30, 1935. Due to the fact that slope protection work after the limiting date of

October 15, 1935, \$1825.40 was held back to guarantee the performance of any necessary reshaping, fertilizing and seeding in the spring of 1936. The work was finally finished on June 5, 1936 and accepted by the State on June 16, 1936. Its completed cost was \$227,285.72.

Route 23, Section 14 Passaic River to Route No. 6 a distance of 1.191 miles. Relocation and traffic Circle divided as follows:

Route 23 Relocation	0.497 miles
" " present location	0.180 "
" 6 East & West Bound Road	0.207 "
" 6 West & West Bound Road	0.218 "
East & West Bound Road Connection	<u>0.089 "</u>
	1.191 "

This section begins at the Passaic River on Route No. 23 and extends northerly including the relocation of a portion of Routes 6 & 23 with a traffic circle at the intersection of the two routes.

The Greenwood Lake Branch of the Erie Railroad which formerly had two grade crossings within the limits of this contract, has been elevated and two bridges constructed over the northerly and southerly legs of the circle.

The concrete pavement on this contract was finished by August 1, 1936, with the exception of the 16 slabs within the Erie Railroad right of way on the East and West Bound roads, these were not laid, until June 1936. The work was finally accepted by the State on June 23, 1936.

The cost of the completed work was \$110,818.84.



Route 25, Section 27, Paving shoulders at Cranburg a length of 0.943 miles. This work was of 7 inch penetration macadam carried out to the full width of the roadway. Owing to the lateness of the season when the contract was let, no work was done until the spring of 1936.

The need for a storm sewer in Cranbury became so evident that the Township Committee agreed to pay the sum of \$500 toward the cost of the same and the total cost was raised from \$13,214.50 to \$19,722.15.

The work was accepted by the State on July 17, 1936. Its completed cost was \$19,722.15.

Sections 16A, 17B and 20A, Neck Lane to Bayway Circle Center Island Construction a distance of 1.775 miles. The work to be done consists of removing the existing two islands that divide the pavement into 3 travelled ways, and the placing of a center island removing the pavement where the latter is located, paving the areas where the side islands are removed and adjusting the pavement on each side of these islands so that the surface presents a smooth riding surface. The work was started on April 1, 1936 and was completed on September 9, 1936 and was accepted by the State on September 16, 1936. The completed cost was \$61,042.47. The depth of the pavement is 11 inches composed of 9 inches of concrete and finished with 2 inches of bituminous concrete.

Route 28, Section 2, Traffic Circle at Westfield, a length of 0.066 miles. This project was undertaken to eliminate a dangerous condition due to cross traffic at the junction of Route No. 28 and South Avenue, which is a county road that runs parallel with Route No. 28 south of the Central Railroad of New Jersey and joins same at Westfield. Two local streets are also connected with the State Highway at this point. The completion of this contract was made with the exception of the planting of the shrubbery which was deferred to the spring of 1936. The work was finally completed, accepted on June 30, 1936. Its finished cost was \$15,038.28.

Route 28, Section 3, Elmora Avenue to the Rahway Valley Railroad, a distance of 2.627 miles was paved with concrete to fill in the existing pavement varying from 5 feet to 42 feet also 0.7 of a mile was paved to a total depth of 11 inches by laying 3 inches on an 8 inch concrete base. The work was started on November 4, 1935 and was completed and accepted November 6, 1936. The final adjusted cost of the pavement was \$220,355.00. There was a small bridge over a brook at Station 115+05. The cost of it was \$3,080.60.

Routes 21, 25 & 29, Section 11B, Newark Junction Widening, a distance of 0.45 miles was paved to a maximum width of 15 feet and a depth of 10 inches and the extension of the multiple pipe culvert at Peddie Ditch. The total cost of which was \$33,380.56.

Route 29A, Section 1, From Kingwood Station to Frenchtown, a distance of 3 miles. This is the first section that has been improved on this scenic route along the Delaware River between



Lambertville and Frenchtown. The pavement is of concrete 20 feet wide by 9 inches deep. The work was started on January 14, 1936 and was completed on October 27, 1936. It was accepted by the State on October 30, 1936. Its completed cost was \$170,036.99. Four small span bridges were built by the road contractor at a cost of \$23,748.56. These were accepted with the road.

Route 31, Section 4A. Somerville By-Pass a length of 1.83 miles. This section of Route 31 is constructed to relieve traffic from the necessity of passing through the streets of Somerville. It leaves the present Route 31 at the bridge over the Raritan River at the southerly line of the borough of Somerville skirting the borough on the west, terminating at the traffic circle, the intersection of Routes 28, 29 and 31. A short spur from Route 29 at the northerly borough line of Somerville, connects with the existing Route 31, to the north permitting north and south bound traffic from all points to by pass Somerville.

The part of this section from the Raritan River Bridge to Somerset Street, Raritan, is over a fill from 8 to 10 feet high which was placed under a separate contract in 1929.

The completion of the pavement was held up due to the necessity of changing the line and grade of a 36 inch water main by the Somerville Water Company and the construction of an underpass below the tracks of the Central Railroad of New Jersey.

This stretch of about 300 feet was completed in June 1936 and accepted by the State on June 30, 1936. The important item in this contract was the construction of an underpass below the tracks of the Railroad, outleting in the meadow land near the Raritan River. This underpass is 5 by 5 feet by 1265 feet in length and a depth of from 8 feet at the railroad to 22 feet at the outlet. The pavement is of concrete 20 feet wide by 9 inches deep on the right of way and widened to 40 and 50 feet at the intersections plus a dual pavement 20-30 feet wide for a length of 0.40 miles.

The work was started on February 18, 1935 but the delay was caused by construction of the underpass. The cost of the completed work was \$176,599.27.

Route 33, Section 3B. Extension of Overpass and approach to the New Jersey Southern Railroad of New Jersey, a distance of 0.274 miles. The existing 40 foot concrete road is converted into a dual highway by the addition of a 32 foot concrete pavement on the north side, with a raised center island 6 feet wide. The pavement is of concrete 9 inches deep. The work was started on April 20, 1936 and was finished and accepted by the State on October 14, 1936. The cost of the finished work was \$30,175.92. A bridge was built overpassing the railroad. The work on this was started on March 30, 1936, and completed on September 24, 1936 and was accepted on October 14, 1936. The completed cost was \$20,792.25.

Section 3C, Hurley's Corner, Shark River Station Road, a distance of 0.999 miles was paved with concrete 20 feet wide on the main



line and widened to 34 and 40 feet at the intersections and to a uniform depth of 9 inches. The work was started on January 22, 1936 and completed and accepted by the State on September 29, 1936. The completed cost of the pavement was \$139,505.11. A bridge was included in this contract to carry Route 34, southbound, over Route 33, westbound. This consists of a single span of longitudinal steel beams encased in concrete and supporting concrete slabs covered with waterproofing and asphalt block pavement. The width of the upper roadway is 24 feet between curbs, and the clear span is 30.5 feet. The substructure of the bridge consists of two concrete abutments with wingwalls. The width of the lower roadway is 24 feet. The work on this structure was started on March 20, 1936 and completed on September 24, 1936. The completed cost was \$14,827.20. This work was accepted by the State on September 29, 1936.

Route 34, Section 5, Bridge over P. R. R. East Allenwood. This bridge over the Freehold and Jamesburg Agricultural Railroad was started on March 6, 1936, and was completed and accepted by the State on October 14, 1936. Its completed cost was \$47,776.55. The work under this contract consists of the construction of a bridge carrying Route 34 over the right of way of the railroad in the Township of Wall. The overall length is 110.51 feet and the overall width is 69 feet. The substructure consists of concrete abutments of the open type and two intermediate concrete column bents.

A center island 6 feet wide, divides the roadway into two parts, each 24 feet wide. A sidewalk 6 feet wide is provided on both sides of the bridge.

Route 34, Section 6-Brielle Circle to Riveria Beach a distance of 2.321 miles was paved with concrete 20 feet wide by 9 inches deep on the main portion and widened at the circle and intersections to 44 feet.

The work was started on January 22, 1936 and was completed on October 15, 1936. It was accepted by the State on October 27, 1936.

The final adjusted cost to the State was \$145,517.93.

Section 5. Brielle Circle to the New Bedford Road a distance of 3.35 miles was paved with concrete of the following widths, viz. 20, 30, 40, 48 and 64 feet and a depth of 9 inches. The work was started on March 4, 1936 and finished and accepted on November 10, 1936. Its completed cost was \$315,803.32. Two bridges were built on this section, one over Atlantic Avenue and a cattle pass. The bridge over Atlantic Avenue consists of longitudinal beams encased in concrete and topped with reinforced concrete slabs. Its overall length is 65 feet and its width is 69 feet. The cattle pass consists of a concrete box 6 feet wide by 7 feet high. Its total length is 52 feet. The work on these two projects was started on March 23, 1936 and was completed on August 27, 1936. The completed cost of the two structures was finally figured at \$37,193.09.



Route 35, Sections 8A & 9A, Roadway beautification at Brielle. This work consisted of the planting of trees, shrubs and vines of various species within the limits of the right of way, in the center island and on either side.

The work started on October 28, 1935, but was not finished and accepted by the State until June 16, 1936. The cost to the State was \$23,737.01.

Route 41, Section 2, Haddonfield-Berlin Road to Route 40 at Ellisburg, a distance of 1.704 miles was paved with concrete 20 feet wide on the straightaway and 40 feet wide at the inter-sections. The uniform depth of the pavement is 9 inches.

The work was started on June 10, 1935 and was finished on April 9, 1936 and was accepted by the State on April 14, 1936. The completed cost was \$80,674.22. A bridge was built on this section by the road contractor over the north branch of Cooper River. This bridge has an overall length of deck of 34 feet and overall width of 55.17 feet and is finished with a roadway 40 feet wide and sidewalk of 6 feet. It is a reinforced concrete slab supported on steel beams.

This work was started on June 10, 1935 and was finished and accepted by the State on January 7, 1936. Its completed cost was \$20,147.55.

Route S40, Section 4, Route 40 to Butlers Place, a distance of 5.454 miles was paved with concrete to a width of 20 feet and a depth of 9 inches.

This work was started on September 27, 1935 and was completed on August 27, 1936. It was accepted by the State, on September 1, 1936. Its completed cost was \$191,642.58.

Route 44, Section A, vertical lift span composed of 1-21 foot, 1-36 foot and 1-82 foot span. The width of the roadway is 40 feet plus 2-9 foot sidewalks. The deck covering consists of a steel grid on lift span and a concrete wearing surface on the others. This work was started on May 17, 1935 and finished on October 16, 1936. The completed cost was \$173,132.94.

Route 47, Section 11, Big Timber Creek Bridge and Approaches.

The bridge consists of 6 spans as follows: 1-31 foot, 1-47 foot, 2-53 foot, 1-89 foot and 1-45 foot. It has an overall width of 59 feet and a road width of 46 feet. The bridge consists of 3 concrete encased steel beam spans on the north approach, 1 steel through girder span, over channel, not encased and 2 concrete encased steel beam spans on south approach.

Channel span designed to permit installation of tower and machinery to convert same to a vertical lift operation when required. The work was started on August 10, 1934 and finished and accepted on August 20, 1935.

It was paid for on March, 1936. The cost was \$135,754.44.

Some extra drainage facilities were added to the original plans, also, the asphalt intersection at Route 47 and Broadway, which was originally planned to remain, was replaced with concrete pavement, to improve appearance and riding conditions.

The approach<sup>es</sup> to the bridge were paved to a width of 46 feet and finished with a curb on each side. The pavement is 9 inches deep except at the bridge approaches where it is increased to 18 inches. The job is finished with 6 foot sidewalks



on each side. The completed cost of this was \$34,735.61.

A traffic circle was constructed at Somers Point at the intersection of the Mays Landing-Ocean City road and the Pleasantville-Ocean City Road. Its length is 0.155 miles. It is built of reinforced concrete 40 and 56 feet wide by 9 inches deep. The work was started on October 23, 1935 and completed and accepted on February 7, 1936. A portion of the seeding was not finished until April 14, 1936 when final payment was ordered, this amount was \$42,385.48.

Route 849, Cohamsey River Bridge, in the City of Bridgeton consists of two spans one of 59 feet, the other of 60.5 feet with an overall width of 58 feet and a finished roadway width of 40 feet. This is a steel and concrete deck girder structure having one fixed span and one movable span, a single leaf bascule. The work was started on October 1, 1935, and was completed on June 23, 1936. Its cost was \$183,103.62.

Route 50, Section 12B, Corbin City Cut Off, a distance of 0.786 miles was improved along a new line, with concrete 20 feet wide by 9 inches deep.

The work was started on September 24, 1935 and finished on April 23, 1936 and accepted by the State on April 28, 1936. The cost of the completed work was \$37,437.46.

## Resume

During the year 1936, the revenue of the State Highway Fund as anticipated by the Appropriation Act of the year, was adjusted as follows:

The unappropriated balance forwarded from the year 1935 was \$1,339,669.83.

The revenue anticipated by the Motor Vehicle Department from Motor Vehicle fees was \$16,000,000.00. The actual revenue received was \$17,517.56 an overrun of \$1,217,137.56.

The revenue anticipated by the Motor Vehicle Department from Motor Vehicle fees was \$16,300,000.00. The actual revenue received was \$17,517.137.56, an overrun of \$1,217,137.56.

The revenue estimated by Gas Tax Division from Gas Tax was \$18,000,000.00. The actual revenue was \$19,525,000.00. An after provision had been made for payment of rebates of \$1,864,587.09, an overrun of \$1,525,000.00.

The anticipated revenue from the Excise Tax was \$85,000.00. The actual revenue from this source was \$84,781.72, an underrun of \$218.28.

The anticipated revenue from Federal Aid was \$117,167.00. The actual amount available from the Federal Government was \$1,676,718.00, an overrun of \$559,551.00

The anticipated revenue from receipts from miscellaneous sources was \$450,000.00. The actual revenue was \$635,046.12, an overrun of \$185,046.12.



There was also included a repayment of a part of the amount diverted in previous years from Emergency Relief in the amount of \$4,530,000.00 and appropriation of the previous year (1935) in the sum of \$300,000.00 were cancelled, resulting in a total actual revenue for the year of \$45,686,915.73.

The appropriations of the year totalling \$42,120,018.55 were increased by direction of the Governor and in accordance with Chapter 102 P. L. 1930, by the amount of \$2,000,000.00, transferred to the Public Utility Commission for the construction of Grade Crossing Elimination, by special appropriation to the Delaware River Joint Toll Bridge Commission for emergency repairs to free bridges crossing the Delaware River of \$46,500.00 (Chapter 34 P. L. 1936), and by the increase in Federal Aid of \$559,551.00 made available for State Highway Construction in accordance with the provisions of the Appropriation Bill.

These adjustments result in a total appropriation for the year of \$44,726,069.55, divided as follows:

Debt Service	\$13,248,938.90
Emergency Relief	12,102,437.00
County and Township Aid	9,045,000.00
State Highway Department	7,264,294.15
Other Departments	<u>3,065,399.50</u>
	\$ 44,726,069.55

and leaves unappropriated a balance of \$960,846.18 for consideration in the year 1937.

## REPORT OF STATE HIGHWAY DEPARTMENT

1936

## Revenue:

Unappropriated balance of previous years		\$1,339,669.83
Motor Vehicle fees, fines, etc.	\$17,460,970.81	
(Restricted Funds) Motor Vehicle fees, etc.	56,166.75	17,517,137.56
Tax on motor fuels, etc.	21,389,527.09	
Less refund to users	1,864,527.09	19,525,000.00
Bus excise tax		84,781.72
Federal Aid regular		1,676,718.00
Repayment by State fund of part of amount diverted for emergency relief		4,530,000.00
Miscellaneous revenue		<u>635,046.12</u>
		45,308,353.23
Appropriations of 1935 cancelled and reappropriated		<u>300,000.00</u>
Total revenue		45,608,358.23
Depreciation and interest charged c/p/ a/c		<u>78,562.50</u>
Total		\$ 45,686,915.73



# Appropriations:

State Treasurer-Debt Service	\$13,248,938.90
Emergency Relief for 1935	\$5,391,423.85
Additional " " " "	3,711,013.15
" " " 1936	3,000,000.00
Chapter 26, P. L. 1936	12,102,437.00
State Highway Department	
County Aid (Mandatory)	6,735,000.00
Township " "	2,310,000.00
State Highway Construction and purchase of Right of Way	2,819,294.15
State Highway Maintenance	2,415,000.00
Institutional roads & approaches	150,000.00
State Highway Plant & Equipment	95,000.00
Lighting State Highway system and operation of bridges	385,000.00
Administration, Engineering & Inspection and cost of acquiring right of way	1,400,000.00
	\$16,309,294.15
Motor Vehicle Department	752,520.00
Motor Fuel Tax Division	145,379.50
Board of Commerce & Navigation	90,000.00
Commission on elimination of toll bridges	77,500.00
Board of Public Utility Com- mission	2,000,000.00
Total amount appropriated (1936)	\$44,726,069.55
Unappropriated balance	980,846.18
	\$45,686,915.73



The following is the commitment for the balance of the  
1936, Route and Bridge Funds:

Route 3,	Paterson Traffic Circle	0.3 miles long	\$	82,000.00
" 4,	Perth Amboy By-Pass	4.0 "	"	1,119,102.00
" 4,	Route 29 to Linden	4.50 "	"	808,000.00
" 7,	Belleville turnpike	2.00 "	"	250,000.00
" 25,	Deans Southerly	2.70 "	"	100,000.00
" 25,	Tonnelle Ave.-Wallis Ave.	.20 "	"	519,216.00
" 27,	Slackwood, Mercer	.05 "	"	15,400.00
" 27,	Shabakunk Bridge widng.			50,000.00
" 30,	Oxford Southerly			30,000.00
" S31,	2 Bridges Sussex Co.			15,000.00
" 35,	Shark River Bridge, Machinery & Equipment			60,000.00
" 41,	Haddonfield-Berlin Road	1. mile		272,000.00

Miscellaneous Arrangements and		
Utility Rearrangement	1935 & 1936	166,437.39
Landscape Project	1935 & 1936	67,200.00
		<u>\$3,554,355.39</u>

Reserve for adjustments	<u>223,235.72</u>
	<u>\$3,777,591.11</u>

Balance of Bond Issue authorized but not included in above program to date	<u>1,710,146.70</u>
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Total	<u>\$5,487,737.81</u>
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